

CUSTOMER SERVICES
MARKET ANALYSIS AND FORECAST.
EUROPE, 1992 - 1997

INPUT

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1992-1997

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Customer Services Programme—Europe
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***Customer Services Market Analysis and
Forecast, Europe, 1992-1997***

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Abstract

This study provides a forecast for the growth of user expenditures on customer services in Europe covering the five year period 1992 to 1997.

Market forecasts are provided for the growth of the customer services market in sixteen Western European country markets. A separate forecast is also provided for Eastern Europe, taken as one group of countries.

The forecasts include the activities of three types of vendor active within the customer services market:

- Customer Services Vendors, defined to include:
 - Equipment and systems vendors
 - Dealers and distributors
 - Independent maintenance organisations (IMOs)
- Independent Software and Services Vendors
- Non-industry Vendors, consisting principally of Construction and Building Services companies.

Estimates for the customer services revenues earned in 1991 by the leading equipment vendors are provided, segmented by service sector and country market.

Forecasts provided in this study are presented in local European currencies, US dollars and ECU's.



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Table of Contents

I	Introduction	I-1
	A. Objectives and Scope	I-1
	B. Methodology	I-2
	C. Economic Statistics	I-3
	D. Report Structure	I-3
II	Executive Overview	II-1
	A. Customer Services Opens onto the Wider Marketplace	II-1
	B. Developing New Perspectives on Customer Services	II-3
	C. The Customer Services Market in Europe	II-5
	1. Market Growth 1992 to 1997	II-5
	2. Market Growth by Vendor Type—1992 to 1997	II-7
	D. Leading Equipment Vendor Customer Services Revenues	II-8
	E. Country Market Growth 1992 to 1997	II-11
III	The Customer Services Market and Its Vendor Groups	III-1
	A. Market Definition	III-1
	1. Definition of the Market Segments	III-1
	2. Service Sector Definitions	III-5
	3. Service Vendor Definitions	III-7
	B. Market Structure and Delivery Modes	III-7
	1. Customer Services Revenue Streams	III-7
	2. Total Customer Services Market in Western Europe, 1992	III-10
	3. Indirect Sales Channels	III-12

Table of Contents (Cont.)

IV

European Customer Services Market, 1992-1997

IV-1

A. Introduction

IV-1

B. Leading Vendor Customer Services Revenues

IV-1

C. Customer Services Market in Europe

IV-3

1. Country Market Growth 1992-1997

IV-3

2. Service Sector Growth 1992-1997

IV-6

V

European Customer Services - Country Market
Forecasts, 1992-1997

V-1

APPENDIXES

A. Leading Equipment Vendor Customer
Services Revenues

A-1

B. Market Forecast Reconciliation

B-1

C. Country Markets Database

C-1

D. Economic Assumptions

D-1

List of Exhibits

II

-1	Customer Services Market in Europe	II-3
-2	Customer Services Market Definition - Service Sector	II-4
-3	European Customer Services Market Growth, 1992-1997	II-6
-4	European Customer Services - Market Sector Growth 1992-1997	II-7
-5	European Customer Services - Leading Equipment Vendor Revenues 1991	II-9
-6	IBM, 1991 European Customer Services Revenues	II-9
-7	Digital, 1991 European Customer Services Revenues	II-10
-8	Siemens Nixdorf, 1991 European Customer Services Revenues	II-10
-9	Customer Services Country Market Growth, 1992-1997	II-11

III

-1	Customer Services Market Structure	III-2
-2	Software Products Market Structure	III-4
-3	Customer Services Revenue Streams	III-8
-4	European User Expenditures, Customer Services, 1992	III-10
-5	Customer Services Revenues from Indirect Sales Channels, 1992	III-13

IV

-1	Top 20 Leading Service Vendors by European Customer Services Revenues 1991	IV-2
-2	Country Market Growth Customer Services, 1992-1997 (U.S. Dollars)	IV-4
-3	Country Market Growth Customer Services, 1992-1997 (ECUs)	IV-5
-4	Customer Services Market Forecast, 1992-1997, Europe (U.S. Dollars)	IV-7
-5	Customer Services Market Forecast, 1992-1997, Europe (ECUs)	IV-8

List of Exhibits (Cont.)

V

-1	Customer Services Revenues, 1991 - France	V-3
-2	Customer Services Market Forecast, 1992-1997, France	V-4
-3	Customer Services Revenues, 1991 - Germany	V-5
-4	Customer Services Market Forecast, 1992-1997, Germany	V-6
-5	Customer Services Revenues, 1991 - United Kingdom	V-7
-6	Customer Services Market Forecast, 1992-1997, United Kingdom	V-8
-7	Customer Services Revenues, 1991 - Italy	V-9
-8	Customer Services Market Forecast, 1992-1997, Italy	V-10
-9	Customer Services Revenues, 1991 - Sweden	V-11
-10	Customer Services Market Forecast, 1992-1997, Sweden	V-12
-11	Customer Services Revenues, 1991 - Denmark	V-13
-12	Customer Services Market Forecast, 1992-1997, Denmark	V-14
-13	Customer Services Revenues, 1991 - Norway	V-15
-14	Customer Services Market Forecast, 1992-1997, Norway	V-16
-15	Customer Services Revenues, 1991 - Finland	V-17
-16	Customer Services Market Forecast, 1992-1997, Finland	V-18
-17	Customer Services Revenues, 1991 - Netherlands	V-19
-18	Customer Services Market Forecast, 1992-1997, Netherlands	V-20
-19	Customer Services Revenues, 1991 - Belgium	V-21
-20	Customer Services Market Forecast, 1992-1997, Belgium	V-22
-21	Customer Services Revenues, 1991 - Spain	V-23
-22	Customer Services Market Forecast, 1992-1997, Spain	V-24
-23	Customer Services Revenues, 1991 - Switzerland	V-25
-24	Customer Services Market Forecast, 1992-1997, Switzerland	V-26
-25	Customer Services Revenues, 1991 - Austria	V-27
-26	Customer Services Market Forecast, 1992-1997, Austria	V-28
-27	Customer Services Revenues, 1991 - Greece	V-29
-28	Customer Services Market Forecast, 1992-1997, Greece	V-30
-29	Customer Services Revenues, 1991 - Ireland	V-31
-30	Customer Services Market Forecast, 1992-1997, Ireland	V-32
-31	Customer Services Revenues, 1991 - Portugal	V-33
-32	Customer Services Market Forecast, 1992-1997, Portugal	V-34
-33	Customer Services Revenues, 1991 - Eastern Europe	V-35
-34	Customer Services Market Forecast, 1992-1997, Eastern Europe	V-36

List of Exhibits (Cont.)

APPENDIXES

A		
-1	European Revenues - Amdahl - Customer Services, 1991	A-2
-2	European Revenues - AT&T/NCR - Customer Services, 1991	A-3
-3	European Revenues - Bull - Customer Services, 1991	A-4
-4	European Revenues - Comparex - Customer Services, 1991	A-5
-5	European Revenues - Digital Equipment - Customer Services, 1991	A-6
-6	European Revenues - Getronics - Customer Services, 1991	A-7
-7	European Revenues - Granada Computer Services - Customer Services, 1991	A-8
-8	European Revenues - Hewlett Packard - Customer Services, 1991	A-9
-9	European Revenues - IBM - Customer Services, 1991	A-10
-10	European Revenues - ICL - Customer Services, 1991	A-11
-11	European Revenues - Memorex - Customer Services, 1991	A-12
-12	European Revenues - Olivetti S&N - Customer Services, 1991	A-13
-13	European Revenues - PrimeService - Customer Services, 1991	A-14
-14	European Revenues - Rank Xerox - Customer Services, 1991	A-15
-15	European Revenues - Siemens Nixdorf - Customer Services, 1991	A-16
-16	European Revenues - Sun Microsystems - Customer Services, 1991	A-17
-17	European Revenues - Tandem - Customer Services, 1991	A-18
-18	European Revenues - Thomainfor - Customer Services, 1991	A-19
-19	European Revenues - Unisys - Customer Services, 1991	A-20
-20	European Revenues - Wang - Customer Services, 1991	A-21
B		
-1	Customer Services Market Forecast Reconciliation - Service Sectors	B-3
-2	Customer Services Market Forecast Reconciliation - Country Markets	B-4

List of Exhibits (Cont.)

C

-1	Customer Services Revenues, 1991 - France	C-2
-2	Customer Services Market Forecast, 1992-1997, France	C-3
-3	Customer Services Revenues, 1991 - Germany	C-4
-4	Customer Services Market Forecast, 1992-1997, Germany	C-5
-5	Customer Services Revenues, 1991 - United Kingdom,	C-6
-6	Customer Services Market Forecast, 1992-1997, United Kingdom	C-7
-7	Customer Services Revenues, 1991 - Italy	C-8
-8	Customer Services Market Forecast, 1992-1997, Italy	C-9
-9	Customer Services Revenues, 1991 - Sweden,	C-10
-10	Customer Services Market Forecast, 1992-1997, Sweden	C-11
-11	Customer Services Revenues, 1991 - Denmark,	C-12
-12	Customer Services Market Forecast, 1992-1997, Denmark	C-13
-13	Customer Services Revenues, 1991 - Norway	C-14
-14	Customer Services Market Forecast, 1992-1997, Norway	C-15
-15	Customer Services Revenues, 1991 - Finland	C-16
-16	Customer Services Market Forecast, 1992-1997, Finland	C-17
-17	Customer Services Revenues, 1991 - Netherlands	C-18
-18	Customer Services Market Forecast, 1992-1997, Netherlands	C-19
-19	Customer Services Revenues, 1991 - Belgium	C-20
-20	Customer Services Market Forecast, 1992-1997, Belgium	C-21
-21	Customer Services Revenues, 1991 - Spain	C-22
-22	Customer Services Market Forecast, 1992-1997, Spain	C-23
-23	Customer Services Revenues, 1991 - Switzerland	C-24
-24	Customer Services Market Forecast, 1992-1997, Switzerland	C-25
-25	Customer Services Revenues, 1991 - Austria	C-26
-26	Customer Services Market Forecast, 1992-1997, Austria	C-27
-27	Customer Services Revenues, 1991 - Greece	C-28
-28	Customer Services Market Forecast, 1992-1997, Greece	C-29
-29	Customer Services Revenues, 1991 - Ireland	C-30
-30	Customer Services Market Forecast, 1992-1997, Ireland	C-31
-31	Customer Services Revenues, 1991 - Portugal	C-32
-32	Customer Services Market Forecast, 1992-1997, Portugal	C-33
-33	Customer Services Revenues, 1991 - Eastern Europe	C-34
-34	Customer Services Market Forecast, 1992-1997, Eastern Europe	C-35

D

-1	U.S. Dollar and ECU Exchange Rates 1992	D-2
-2	U.S. Dollar and ECU Exchange Rates 1991	D-3
-3	Inflation Assumptions 1991 and 1992	D-4
-4	Inflation Assumptions 1990 and 1991	D-5

I

Introduction

A

Objectives and Scope

This study is produced by INPUT as part of its 1992 Customer Services Programme in Europe.

The objectives of this report are to provide an analysis of user expenditures for customer services in Europe, an evaluation of the market size in 1991 and a five-year growth forecast for the period 1992 to 1997.

Further objectives are to:

- Estimate the size by major segment of the individual European country markets for customer services and provide a five-year growth forecast for each, for the period 1992 to 1997.
- Provide forecasts for six service sectors of the customer services market in Europe.
- Estimate the customer services revenues of the leading equipment vendors, segmented by service sector and country market.

Country markets included in Western Europe are:

Austria	Italy
Belgium	The Netherlands
Denmark	Norway
France	Portugal
Finland	Spain
Germany	Sweden
Greece	Switzerland
Ireland	The United Kingdom.

Countries aggregated into the Eastern European market are:

Baltic states (Estonia, Latvia, Lithuania)
Bulgaria
Czechoslovakia (now Czech and Slovak republics)
Hungary
Poland
Romania
Russian Federation
Ukraine
Republics which once formed Yugoslavia
Other Commonwealth of Independent States in Europe.

B

Methodology

INPUT approached the leading equipment vendors for details and confirmation of each company's customer services revenues. A proportion of vendors cooperated by providing data to INPUT.

Research to provide additional data contained within the study was conducted using the following sources of information:

- Vendor annual reports
- Company press releases
- Specialised data published by the computer market trade press.

INPUT's estimates and forecasts are based on analysis of the ongoing vendor and user research results, issued from (among other projects) the annual user satisfaction survey.

C

Economic Statistics

Details of the currency conversion rates and inflation assumptions used in the compilation of the forecasts in this report are contained in Appendix D.

D

Report Structure

The remaining chapters of this report are structured as follows:

- Chapter II is an executive overview which provides a summary of the study.
- Chapter III provides details of the market definitions and vendor delivery modes, including notes on the upgrading of the market perspective to enhance the presentation of the market opportunities available to vendors.
- Chapter IV provides an analysis of the overall customer services market in Europe.
- Chapter V provides an analysis of the customer services market in sixteen individual European country markets, plus Eastern Europe treated as one group, all expressed in local currencies, for the five-year period 1992 to 1997.
- Appendix A contains estimates of the customer services revenues of the 20 leading equipment vendors in Europe.
- Appendix B provides a reconciliation between INPUT's current market forecast and the previous market forecast made in 1991.
- Appendix C contains the U.S. dollar versions of the 1991 country market sizes and of the forecasts for 1992 to 1997.
- Appendix D provides the Economic Assumptions used in sizing and forecasting the Customer Services sectors.

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II

Executive Overview

A

Customer Services Opens onto the Wider Market-Place

Customer services was in the past a clearly defined and separate set of activities, which related to the after-sales support of proprietary hardware configurations. Because of this after-care orientation, it had little overlap with other computer services sectors, many of which are associated with the development of new business applications.

Because of the highly technical content of many services related to the care of complex devices, customer services had developed a culture which was particular to its own organisational requirements. It had thus become somewhat isolated from the strategic movements in the information systems (IS) industry.

Customer services has now come to need to re-evaluate its role in the strategy of the equipment and systems manufacturers and suppliers for the following reasons:

- Falling hardware maintenance revenues threaten the life of its main revenue stream.
- Competition from independent maintenance vendors and companies in the distribution channel (dealers and distributors) has increased and will continue to do.
- The industry move to open systems based on smaller (downsized) networked configurations has opened the market to all sorts of new service opportunities in the non-maintenance sector.

What customer services vendors need to know to continue to operate profitably in the market-place of the 1990s are the answers to the following questions:

- What are the trends and opportunities in both maintenance and non-maintenance equipment-related sectors?
- What are the strategies of their traditional competitors?
- What types of new competitor can be expected in the wider market-place and what strategies are they adopting in the face of the overall trends in the industry over the next five years?

The customer services market report provides INPUT's quantitative assessment of the market and describes the opportunities present under three headings:

- Equipment-related service such as environmental services and maintenance
- Other non-maintenance services in which customer service vendors are traditionally active, such as system software support and training services
- Newer service areas in which other types of competitor are already firmly entrenched.

The overall market for customer services in Europe will grow from \$27.3 billion in 1991 to an anticipated \$28.1 billion in 1992, i.e., with a small growth rate of 3%. This is in contrast to total information services market growth of 8%, taking the market for all types of software and services in Europe from \$102 billion in 1991 up to \$110 billion in 1992.

In addition to this \$28 billion of customer services expenditure, in 1992 customer services vendors are expected to gain \$4.4 billion of other services revenue (excluding systems and applications software). This portion of their revenues will grow at an overall 9% over the \$4.05 billion gained in 1991. The customer services vendors are therefore growing their non-equipment related service revenues at a slightly higher rate than the market as a whole; i.e., they are slowly increasing their market share.

Of the \$85 billion of 1992 European services expenditure (excluding all software products), customer services vendors will account for \$32.5 billion or 38%.

In addition to the \$28 billion of external expenditures anticipated for 1992, there is an estimated \$8.4 billion of captive market expenditure on customer services. This expenditure represents bundled system software support costs and user self-service costs for the in-house provision of all types of customer services.

The total potential market for customer services in Europe for 1992 is thus over \$36 billion.

Exhibit II-1 summarises the key growth rates of the sector in 1992.

EXHIBIT II-1

Customer Services Market in Europe	
Key Parameters for 1992	
• Growth over 1991 of 3% • Non-maintenance services growing at 6% over 1991 • Multivendor maintenance growing at 11% • Education and training market declines in 1992	

B

Developing New Perspectives on Customer Services

The customer services market has been segmented by INPUT into six service sectors for 1992. These six sectors are identified by Exhibit II-2 and defined as follows:

- **Hardware Maintenance:** the repair or routine preventive maintenance of computer systems or associated hardware, including associated support activities. This sector includes communications processors and LANs but excludes PABX equipment. It includes contracts for combined support of hardware and software.

- **Environmental Services:** This is a new sector for 1992. It contains all service revenues associated with changes to the environment of the computer system platform including computer rooms, cabling, networks, and the buildings containing the systems. It also covers environmental planning and audit services.
- **Systems Software Support:** Software maintenance activities relating to systems software (not applications), including associated support activities.
- **Professional Services:** This sector of the customer services market relates to the provision of professional services concerned with system platform operations. Examples are
 - Consultancy services
 - Network services (operations and administration)
 - Systems software evaluation
 - Problem management services
 - Software development
 - Staff hire.
- **Training and Education:** Within the definition of customer services, this sector of the market relates to those elements of training and education concerned with system platform operations. Activities relate to computer equipment or systems software, for example, operations training in the use of systems software.

EXHIBIT II-2

Customer Services Market Definition - Service Sector

- Equipment Services
 - Hardware Service
 - Environmental Services
- Other Customer Services
 - Systems Software Support
 - Training and Education
 - Professional Services
 - Business Continuity Services

- **Business Continuity Services:** This, the second new sector for 1992, comprises three types of service associated with keeping a user's system or network platforms available in the face of major incidents such as fire, flood, terrorist attack, etc.:
 - Contingency planning consultancy services
 - Disaster Recovery Services (DRS)
 - Restart Services (services aimed at restoring a damaged user system to its original state in the shortest possible time).

C

The Customer Services Market in Europe

1. Market Growth 1992 to 1997

Exhibit II-3 provides the forecast for the growth of market size for external customer services in Europe.

User expenditure for customer services in Europe will grow from the \$28 billion anticipated for 1992 at just over 4% CAGR to reach \$34 billion by 1997. This forecast shows a reduction of over 3% when compared to the CAGR forecast in INPUT's 1991 report. This reduction represents worsening long-term economic trends detected during 1992 in several European countries—for example, the U.K., Italy, Spain and Germany.

Included within this forecast are user expenditures gained by three categories of vendor:

- Customer services vendors:
 - Equipment vendors
 - Independent maintenance vendors
 - Dealers and distributors.
- Independent software and services vendors:
 - Customer services revenues resulting from indirect equipment sales
 - Focused activities, for example, systems platform level training.
- Non-industry vendors:
 - Building and construction companies providing environmental facilities dedicated to computer installation as part of major construction projects
 - Specialist building services companies, for example, air conditioning suppliers which also provide installation services.

Market shares for each service sector are as follows:

- Hardware service accounts for an anticipated 56% of user expenditure in 1992, reducing to 51% by 1997.
- Environmental services accounts for 28%, increasing to 30% in 1997.
- Systems software support accounts for under 7% but increasing to over 8% in 1997.
- Education and training services account for under 5% in 1992 and will stay at that level.
- Professional services accounts for 3% in 1992 increasing to 4% by 1997.
- Business continuity services will account for just over 1% in 1992 but will rise to just under 3% by 1997.

EXHIBIT II-3

**European Customer Services Market Growth,
1992-1997**

SERVICE SECTOR	(\$ Billions)		
	1992	1997	CAGR 1992-1997 (Percent)
Hardware Service	15.9	17.4	1.9
Environmental Services	7.9	10.2	5.4
Systems Software Support	1.9	2.8	8.1
Education and Training	1.3	1.6	3.7
Professional Services	0.8	1.4	10.9
Business Continuity Services	0.4	0.9	19.6
TOTAL (Rounded)	28.1	34.3	4.1
All Other Information Services	58.9	98.1	10.8

The principal reasons why hardware service only declines in market share relatively slowly over the five-year period are as follows:

- Vendors are continuing to offer combined service offerings which include hardware and software support.
- More desktop devices will be linked in to local and corporate networks to support mission-critical applications. They will thus qualify for a maintenance contract where none existed for them as stand-alone devices.

2. Market Growth by Vendor Type—1992 to 1997

Exhibit II-4 provides INPUT's forecast for the growth of user expenditure for customer services segmented by vendor type.

Industry vendors account for 78% of user expenditure for customer services in Europe, the remainder of user expenditure being with non-industry vendors.

EXHIBIT II-4

European Customer Services Market Sector Growth 1992 - 1997

MARKET SECTOR	(\$ Billions)		
	1992	1997	CAGR 1992-1997 (Percent)
Customer Services vendors	20.9	25.0	3.6
Independent Software & Services vendors	1.0	1.8	11.6
Non-industry vendors	6.2	7.5	3.9
TOTAL	28.1	34.3	4.1

The market structure in 1992, in terms of contribution by vendor type, is as follows:

- Industry vendors
 - Equipment vendors account for about 65% of user expenditure.
 - Independent maintenance vendors account for about 7%.

- Dealers and distributors account for under 2%.
- Independent software and services vendors account for under 4%.
- Non-industry vendors
 - Specialist building product companies account for 6% of user expenditure.
 - Building and construction companies account for 16% of user expenditure.

The exhibit shows the customers services vendors (dominated by the equipment suppliers) losing market share to the independent software and services vendors as non-maintenance activities become more important. Within the customer services vendor group equipment vendors will lose market share to hold around 63% in 1997, as large distributors and multi-national independent maintainers move more aggressively into the general services business.

Equipment suppliers are expected to maintain their presence in computer services overall by increasing revenues gained in other services sector, such as network services, environmental services, systems integration and systems operations.

D

Leading Equipment Vendor Customer Services Revenues

The 1991 customer services revenues of the leading five equipment vendors in Europe are listed in Exhibit II-5, together with the revenues gained from all other types of service.

The leading five equipment vendors between them account for 36% of user expenditure for customer services in Europe.

The revenues of the leading three equipment vendors are presented in more detail in Exhibits II-6 to II-8 as follows:

- IBM - Exhibit II-6
- Digital - Exhibit II-7
- Siemens Nixdorf - Exhibit II-8.

These more detailed exhibits indicate the degree of dependency on hardware maintenance revenues that the equipment vendor customer services organisations still retain. Much progress has been made in developing non-maintenance revenue streams, but the strong dependence on hardware maintenance revenues remains. For example:

- IBM obtains 79% (83% in 1990) of customer services revenues in Europe from hardware maintenance.

EXHIBIT II-5

European Customer Services Leading Equipment Vendor Revenues 1991

Vendor	1991 Revenues (\$ Millions)	
	Customer Services	All Other Services
IBM	3,665	1,640
Digital	2,430	270
Siemens Nixdorf	1,535	205
Bull	1,120	375
AT&T/NCR	1,040	255

- Digital has continued to be successful at developing non-maintenance revenues, relying on maintenance for 65% (61% in 1990) of customer services revenues.

EXHIBIT II-6

IBM 1991 European Customer Services Revenues

SERVICE SECTOR	REVENUE (\$ Millions)
Hardware Service	2,910
Environmental Services	300
Systems Software Support	Bundled
Education and Training	270
Professional Services	180
Business Continuity Services	6
TOTAL (Rounded)	3,665

- Siemens Nixdorf is the most heavily dependent of the three obtaining about 85% (87% in 1990) of its customer services revenues from this activity.

EXHIBIT II-7

Digital 1991 European Customer Services Revenues	
SERVICE SECTOR	REVENUE (\$ Millions)
Hardware Service	1,585
Environmental Services	315
Systems Software Support	270
Education and Training	160
Professional Services	85
Business Continuity Services	16
TOTAL (Rounded)	2,430

EXHIBIT II-8

Siemens Nixdorf 1991 European Customer Services Revenues	
SERVICE SECTOR	REVENUE (\$ Millions)
Hardware Service	1,310
Environmental Services	95
Systems Software Support	-
Education and Training	85
Professional Services	35
Business Continuity Services	10
TOTAL (Rounded)	1,535

E**Country Market Growth 1992 to 1997**

Exhibit II-9 provides a forecast for the growth of user expenditure for customer services in the four largest country markets in Europe.

The combined share of these four largest country markets accounts for 68% of user expenditure for customer services in Europe. The percentage accounted for by each major country market is as follows:

- France - 17% (16% in 1991)
- Germany - 19% (18%)
- United Kingdom - 20% (22%)
- Italy - 12% (12%).

IBM is the leading equipment vendor, in terms of customer services revenues, in three of the four largest country markets in Europe. The exception to IBM's market leadership is provided by the German market, where, as a result of acquiring Nixdorf, Siemens Nixdorf relegated IBM to second place. In France and Italy the local national equipment manufacturers, Bull and Olivetti, respectively, are in second place. In the United Kingdom, the British managed ICL, now owned by Fujitsu of Japan, is in third place behind IBM and Digital Equipment.

EXHIBIT II-9

**Customer Services Country Market Growth,
1992-1997**

	(\$ Billions)		
COUNTRY MARKET	1992	1997	CAGR 1992-1997 (Percent)
France	4.7	5.5	3.2
Germany	5.5	6.4	3.1
United Kingdom	5.6	6.6	3.5
Italy	3.5	4.3	4.4
Rest of Europe	8.9	11.4	5.2
TOTAL	28.1	34.3	4.1

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III

The Customer Services Market and Its Vendor Groups

A

Market Definition

1. Definition of the Market Segments

INPUT's definition of the customer services market and its relationship to the hardware products market are illustrated in schematic form in Exhibit III-1. This exhibit illustrates the overall structure of the hardware products or equipment market for systems, and the relationship between customer services and the other segments of the equipment market.

Included within INPUT's definition of customer services are six service sectors:

- Hardware maintenance
- Environmental services
- Systems software support
- Education and training
- Other professional services
- Business continuity services.

Excluded from INPUT's definition of the customer services market, as essentially product markets, are:

- Sales of spare parts
- Media and supplies sales
- Hardware product sales themselves.

EXHIBIT III-1

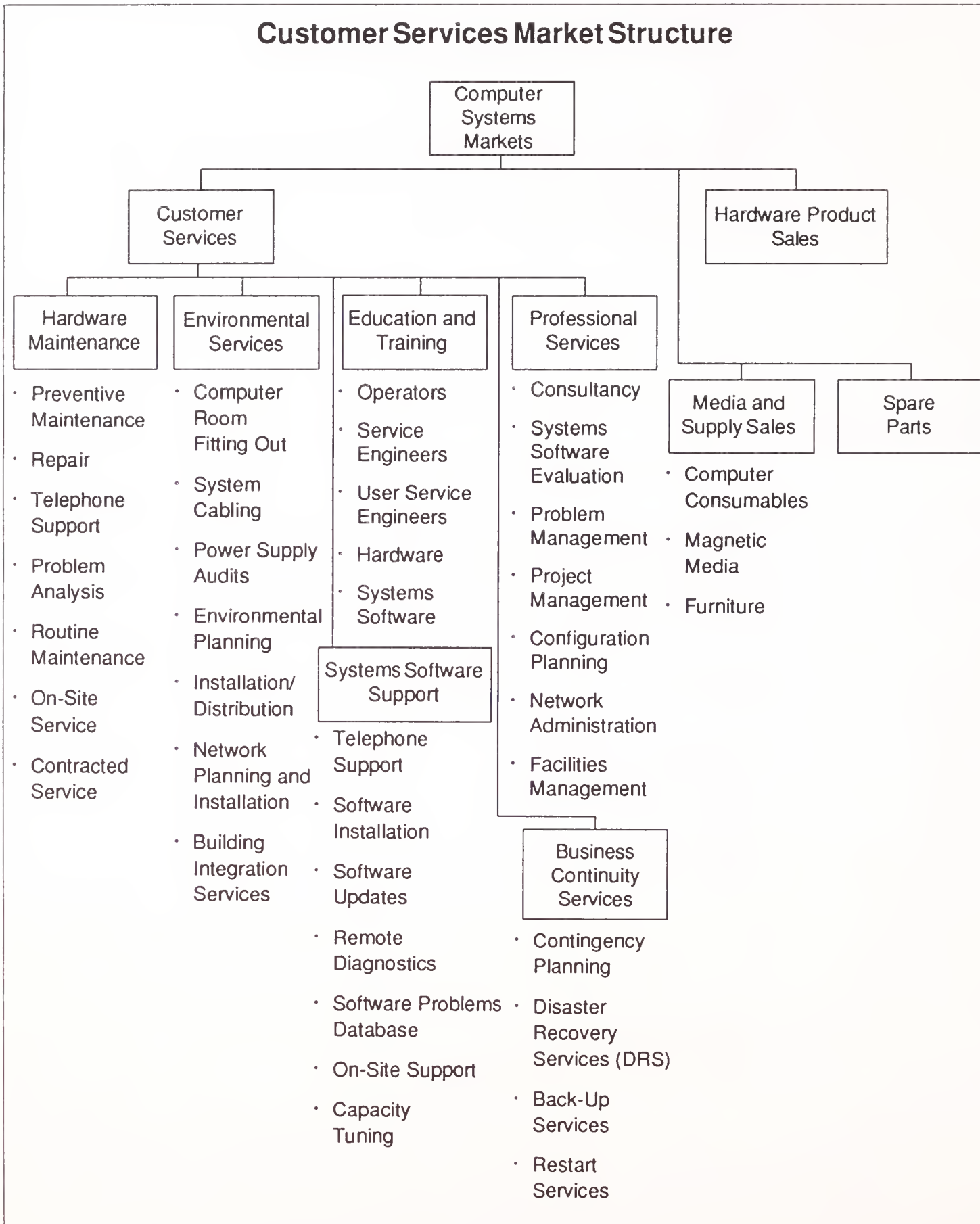
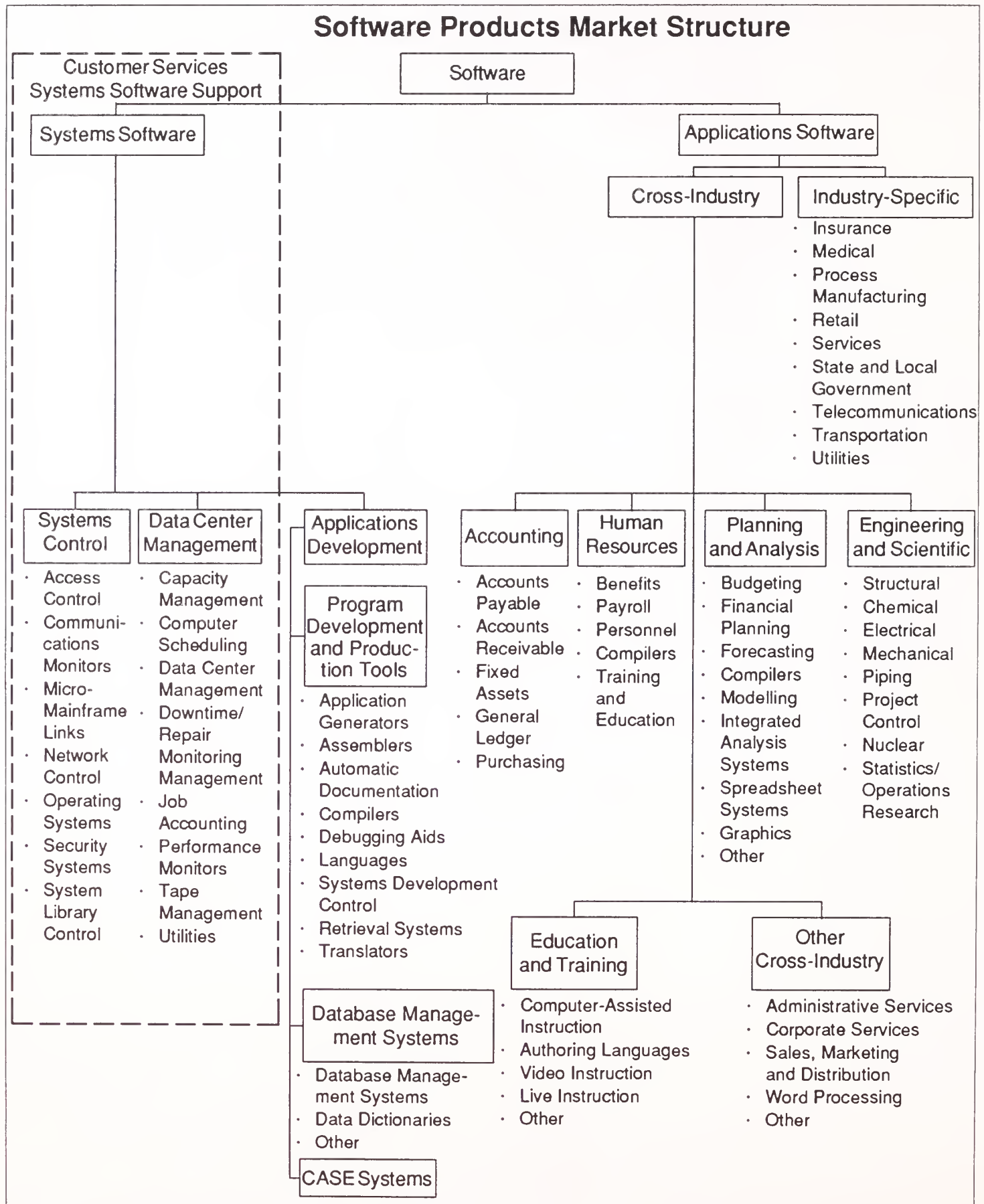


Exhibit III-1 indicates the principal activities undertaken within each of the six service sectors. In each service sector, INPUT's definition of user expenditure includes only those services provided to users by an external organization on a chargeable basis. Services provided by subsidiaries or internal resources are considered unavailable for open tender. They are therefore excluded from the open market but included in the captive market potential.

Software support activities that are included in the customer services market are those activities related to the support of systems software. Exhibit III-2 illustrates INPUT's definition of the software products market. Aspects of software support included in the customer services market are restricted to those areas highlighted in the exhibit with the rectangular box. They relate to system control and data centre management software products.

EXHIBIT III-2



The areas of professional services, and education and training are both parts of more widely defined computer services markets. Only those professional services or education and training services directly associated with the support of computer or network operations, or operating systems software are included as part of the customer services market. To distinguish them from environmental services, these professional services are normally restricted to planning, design or management services, without any installation of platform or ancillary equipment.

The breakdown of user expenditure for customer services can be categorized in a number of ways. INPUT for the purposes of this report defines revenue sources under two such headings:

- The first is based on the six service sectors dependent on the type of activity that generates the revenue
- The second defines market segments dependent on the type of vendor providing the service.

2. Service Sector Definitions

Service sectors are defined by INPUT as follows:

- Hardware maintenance: the repair or routine preventive maintenance of computer systems hardware or hardware components. Included are associated support activities such as telephone support, problem analysis and remote diagnostics. Contracts may be for one or more years; alternating repairs may be effected on an ad hoc basis.
- Environmental services are defined as all planning and implementation services which affect the environments in which computer platforms are expected to run. For these purposes, environment can mean any of the following:
 - The computer room fixtures and fittings
 - Cabling between computers and other devices in a system or network
 - Physical environment, such as: electrical power, air conditioning, water cooling, smoke or fire detection equipments
 - Network attachments
 - Buildings in which computers or network devices or terminals must reside.

Environmental services normally involve the installation, upgrade, repair or de-installation of some piece of equipment, but may be restricted to planning only.

- Systems software service/support: software maintenance activities that relate to systems software (not applications software). Included are associated support activities such as telephone support, problem analysis and software diagnostics.
- Education and training: within the definition of customer services, this sector of the market refers to those elements of education and training that relate to the systems platform or network and its operation, i.e. to computer/network hardware or network operating systems software (not applications). These aspects of customer service would normally include:
 - User hardware maintenance training, or training in the housekeeping for and support of maintenance teams
 - User training in operating systems software maintenance or in the housekeeping and support of maintenance teams
 - Operator training related to the use of hardware or network operating systems software.
- Professional services: within the definition of customer services, this sector of the market refers to those elements of professional services that are concerned with the support of the systems platform or network and its operating environment, including areas such as:
 - Consultancy
 - Network Administration
 - System Software Evaluation
 - Problems Management
 - Project Management
 - Configuration or Capacity Planning.
- Business Continuity Services include a number of service elements related to keeping a business running in the event of a major incident which temporarily puts its IT platform or network completely out of action. They include:
 - Planning for such a contingency
 - Disaster Recovery Services
 - Back-up services for magnetic or optical media

- Restart services, covering all activities which contribute to reinstating on a permanent basis the platform or network which has suffered the major incident.

These services can be sold together in any combination or as free-standing services.

3. Service Vendor Definitions

INPUT's definitions of the three primary categories of customer services vendor are as follows:

- Equipment vendors are defined as companies that manufacture computer hardware/equipment and may service equipment manufactured by themselves or other equipment manufacturers.
- Independent maintenance vendors are defined as companies that service computer equipment and are independent of the manufacturer or agent who sold the equipment.
- Dealers and distributors are defined as vendors that service equipment that is sold by them, either as an agent of the equipment manufacturer or as a value-added reseller (VAR).

B

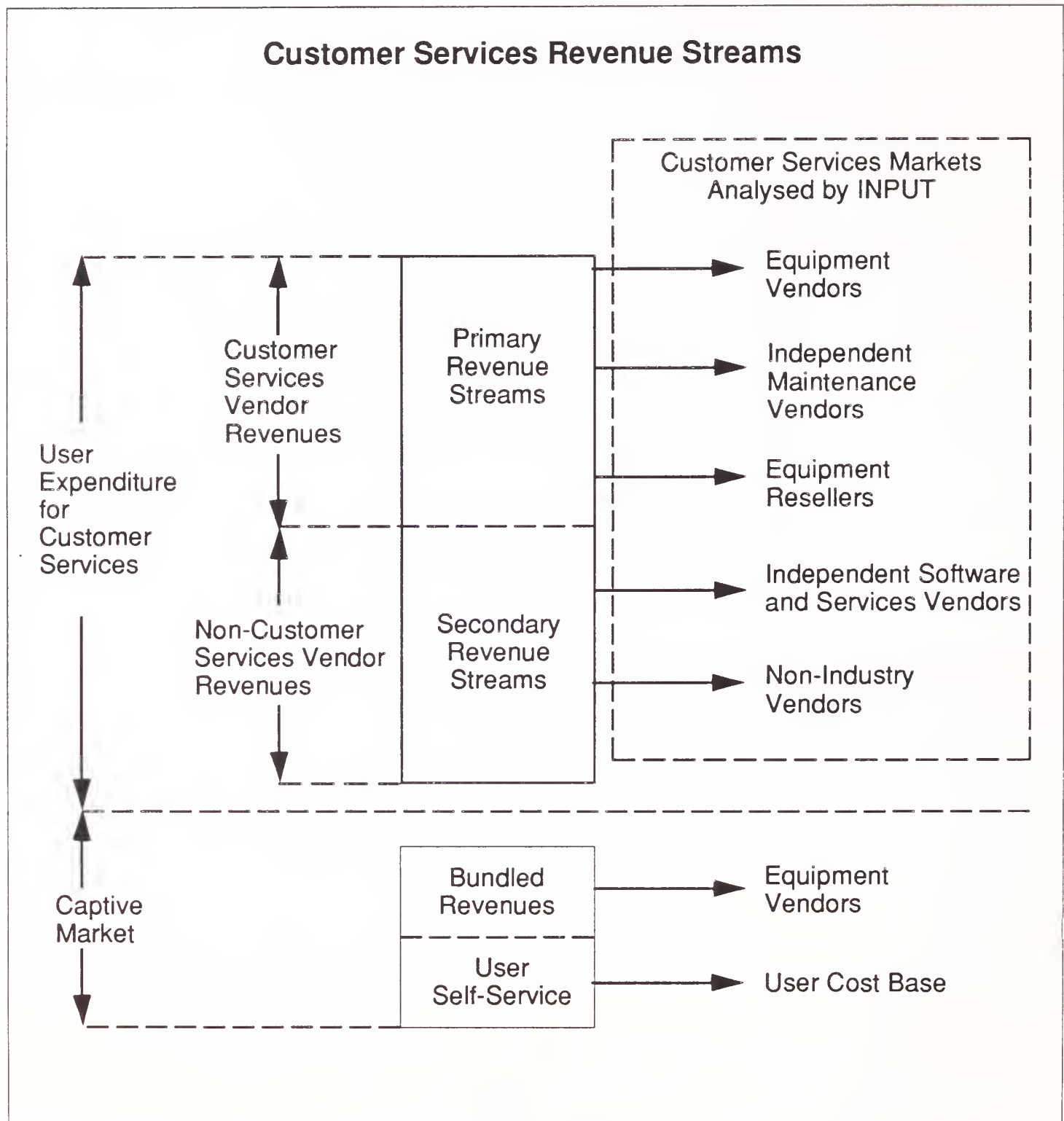
Market Structure and Delivery Modes

1. Customer Services Revenue Streams

Exhibit III-3 provides a diagrammatic representation of the total customer services market. This model indicates the captive and non-captive revenue components of the total customer services market and the various revenue streams that combine to form the total market.

EXHIBIT III-3

Customer Services Revenue Streams



User expenditure for customer services forms that portion of the market where users are provided with vendor services for which they pay separately. This portion of the market sub-divides into two components:

- Customer services vendor revenues. This portion of the customer services market refers to vendors for whom customer services revenues are considered to be a primary revenue stream:
 - Equipment Vendors
 - Independent Maintenance Companies
 - The Dealer/Distributor portion of the indirect equipment resellers market.
- Non-customer services vendor revenues refer to user expenditure, for customer services, with vendors for whom customer services revenues are not considered to be a primary stream. This portion of the market results from the following activities:
 - The system integration (SI) and turnkey systems segments of the indirect equipment resellers market. In a minority of cases, these vendors provide service and support for the system platform.
 - Software and services vendors whose primary source of revenue results from such items as custom software development will sometimes also provide systems support.
 - Non-industry vendors such as building/construction companies or specialist product and building services companies that provide environmental services. Provision of these services is a secondary aspect to the vendor's main line of business; for example, a specialist air conditioning company might service many industry sectors, with systems for a whole range of applications besides computer room air-conditioning.

The captive portion of the customer services market relates to the provision of services for which the user does not pay separately. For example:

- Systems software support charges may be bundled as part of the software license fee rather than paid for separately by the user. Equipment vendors who wholly or partly charge for systems software support in this way include IBM, ICL and Bull.
- Users who wholly or partly provide their own customer services from the use of in-house resources. In this case the charges for services are accrued as an in-house cost and therefore do not result in external expenditure.

2. Total Customer Services Market in Western Europe, 1992

An estimate for the size of the total customer services market for 1992 in Europe is provided by Exhibit III-4. This estimate includes both open market user expenditure for services paid for separately and the captive portion of the market.

EXHIBIT III-4

European Market Size Customer Services, 1992 (\$ Millions)

	Service Sector Revenue Stream	HARD- WARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEMS SOFT- WARE SUPPORT	EDUCATION AND TRAINING	OTHER PROFESS- IONAL SERVICES	BUSINESS CONTINU- ITY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
U S E R E X P E N D I T U R E	Customer Services Vendor Revenues	15,740	1,670	1,340	1,160	840	160	20,910	4,410
	• Equipment Vendors	13,425	1,600	1,270	1,130	800	137	18,362	4,070
	• Dealers and Distributors	415	25	40	20	15	5	520	300
	• Independent Maintenance Vendors	1,900	45	30	10	25	18	2,028	40
	Independent Software & Service Vendor Customer Services Revenues	150	-	530	140	-	190	1,010	51,880
	• From Indirect Equipment Sales	150	-	50	-	-	-	200	-
	• Focused Activities	-	-	480	140	-	190	810	51,880
	Non-Industry Vendor Customer Services Revenues	-	6,200	-	-	-	-	6,200	610
	TOTAL (ROUNDED)	15,890	7,870	1,870	1,300	840	350	28,120	56,900
C A P T I V E	BUNDLED	-	-	575	-	-	-	575	-
	SELF-SERVICE	150	4,000	125	2,500	1,000	-	7,775	-
	TOTAL (ROUNDED)	150	4,000	700	2,500	1,000	-	8,350	-
TOTAL POTENTIAL MARKET (ROUNDED)		16,040	11,870	2,570	3,800	1,840	350	36,470	56,900

Exhibit III-4 indicates that in 1992 the total customer services market represented almost \$37 billion. User expenditure for customer services represents about 78% of this total, the remaining 22% forming the captive portion of the market.

User expenditure for customer services in the open market, that is services paid for separately, totals about \$28.8 billion. Of this amount about 72% of user expenditure is with customer services vendors, for whom customer services is considered a primary source of revenue. The remaining user expenditure is split between just under 3% allocated to software and services vendors as a by-product of their primary business activities, and just over 25% earned by non-industry vendors.

The user expenditure for customer services provided by non-industry vendors is principally for environmental services provided by building/construction companies, and specialist building services and product companies. These companies provide environmental services to computer users often as a secondary activity to their normal business activities.

The captive portion of the customer services market is in two parts.

- The first part is systems software support revenues, collected as an item which is bundled with the software licence fee, accounting for over 7% of the captive market.
- The second and larger part of the captive portion of the customer services market results from user self service and the primary area in which this is effective is the in-house provision of environmental services. User self service accounts for 93% of the captive portion of the market, of which almost 52% is related to the provision of environmental services.

The high environmental services content of user self-service is estimated to represent over \$4.1 billion.

In overall terms user expenditure for customer services comprises about:

- 56% for hardware maintenance
- 28% for environmental services
- 7% for systems software support
- 5% for education and training

- 3% for other professional services
- 1% for business continuity services.

Compared with the figure indicated for user expenditure the captive portion of the customer services market is made up as follows:

- 23% for hardware maintenance
- 52% for environmental services
- 9% for systems software support
- 3% for education and training
- 13% for other professional services
- 0% for business continuity services.

3. Indirect Sales Channels

Exhibit III-5 indicates an assessment of the distribution of customer services revenues that accrue as a result of equipment marketed through indirect sales channels.

Four primary indirect sales channels are illustrated by Exhibit III-5:

- Systems Integrators
- Turnkey Suppliers
- Dealers/Distributors
- OEMs.

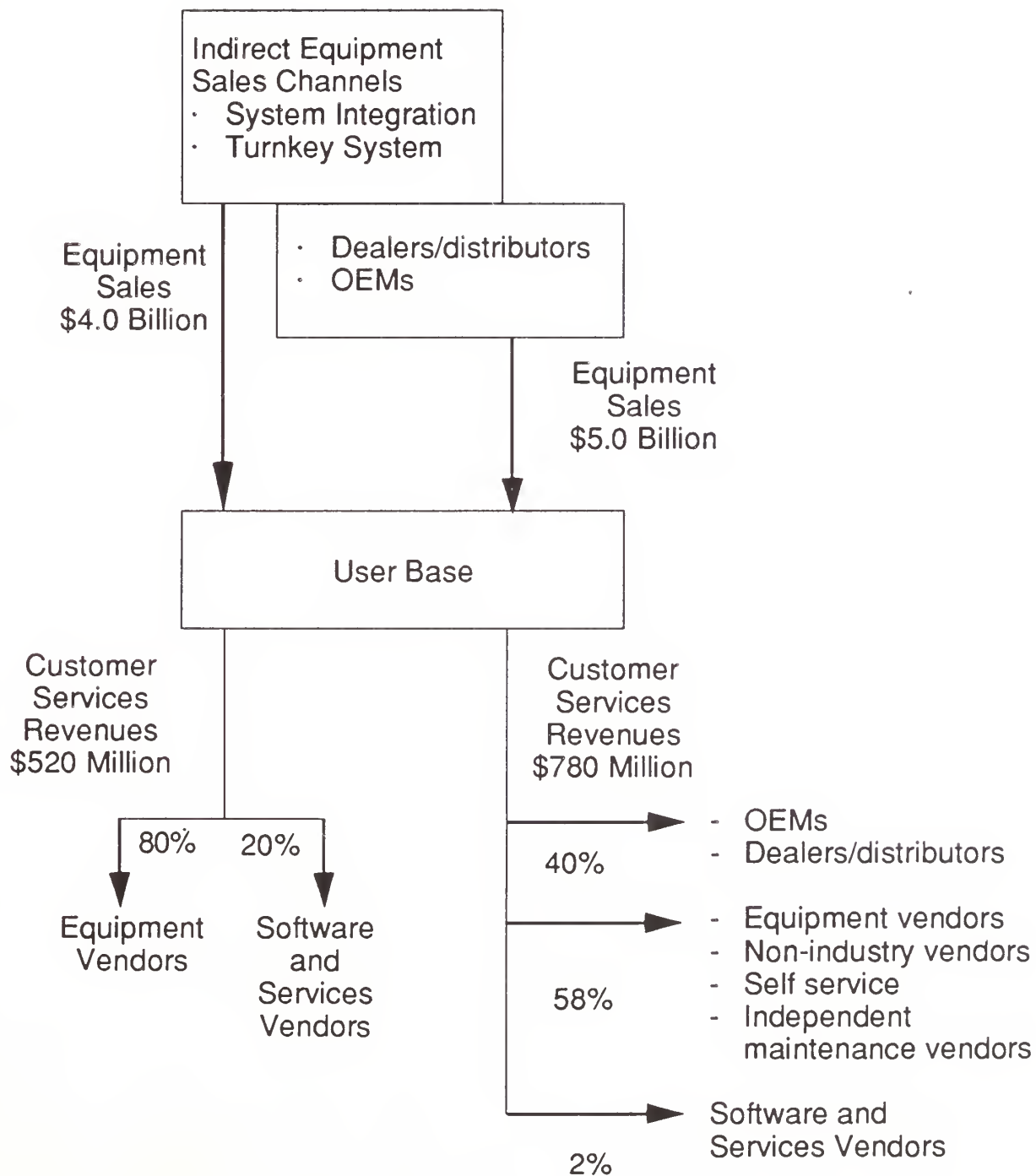
The total value of equipment sold through indirect sales channels in 1992 is estimated to be about \$9 billion in Europe and the customer services revenues attributed to this level of sales is about \$1.3 billion.

About 40% of these customer services revenues are the result of indirect sales through systems integrators or turnkey suppliers. A majority of the maintenance component of these revenues is collected by equipment vendors, due to the high percentage of indirect sales partners who are non-servicing.

By comparison the percentage of customer services revenues which results from sales of equipment through dealers/distributors and OEMs and are collected by equipment vendors is much lower, most likely less than 10%. The larger portion of customer services revenues due to sales through these channels is obtained by the independent maintenance companies.

EXHIBIT III-5

Customer Services Revenues from Indirect Sales Channels, 1992



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IV

European Customer Services Market, 1992-1997

A

Introduction

An overall forecast for the growth of user expenditure for customer services in Europe is presented in this section of the study. Forecasts are presented in U.S. dollars and ECUs for both country market and service sector growth, converted from local currencies.

B

Leading Vendor Customer Services Revenues

Estimates for the 1991 customer services revenues of the twenty leading customer services vendors in Europe are provided by Exhibit IV-1. The year was notable for the fact that the top three independent maintenance organisations in Europe—Granada, Thomainfor and Getronics—now appear in INPUT's Top 20 ranking. As shown later in the report, in their domestic markets these vendors can now all be seen in the Top 10 customer services market rankings. They have achieved these positions principally through fast revenue expansion using the acquisition route.

EXHIBIT IV-1

Top 20 Leading Service Vendors by European Customer Services Revenues, 1991

VENDOR	REVENUES (\$ MILLIONS)							
	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEMS SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROFES- SIONAL SERVICES	BUSINESS CONTIN- UITY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	2,910	300	-	269	180	6	3,665	1640
Digital	1,587	315	269	159	83	17	2,430	270
Siemens Nixdorf	1,311	93	1	86	35	9	1,535	205
Bull	895	45	75	65	33	7	1,120	375
AT&T/NCR	727	101	26	112	66	8	1,040	255
Olivetti	904	50	32	20	25	4	1,036	250
ICL	790	73	62	29	14	-	967	300
Unisys	601	124	72	69	46	14	925	262
Hewlett-Packard	566	30	63	45	30	10	744	-
PrimeService	326	68	85	55	31	1	566	-
Memorex	389	-	-	-	-	-	389	-
Wang	236	32	45	32	28	-	373	-
Granada	238	19	-	-	-	-	257	-
Getronics	96	37	43	4	48	10	238	27
Thommainfor	225	-	-	-	-	-	225	-
Sun Microsystems	189	13	4	6	2	-	214	13
Rank Xerox	184	2	2	2	2	-	193	-
Amdahl	125	4	20	10	8	2	169	-
Tandem	119	10	4	4	2	-	139	-
Comparex	120	-	-	-	-	-	120	-

Note: Totals may not add due to rounding.

C

Customer Services Market in Europe**1. Country Market Growth 1992-1997**

Exhibit IV-2 provides estimates for the growth of the customer services market in the sixteen Western European country markets and in Eastern Europe over the five year period 1992 to 1997, converted to U.S. dollars from local currencies.

The growth of the customer services market in Europe has been severely marked down by INPUT to take account of the effects of economic recession. Growth figures provided by Exhibit IV-2 include an allowance for inflation which at the overall European level is calculated at about 4%, (a similar figure was used in 1991).

The overall market growth has decreased by around 1% to the projected figure of under 4% CAGR.

The four largest country markets of France, Germany, the United Kingdom and Italy account for 69% of user expenditure for customer services in Europe.

In overall European terms the customer services market is estimated at \$28 billion in 1992 and is forecast to grow at 3.9% CAGR to reach approximately \$34 billion by 1997.

Exhibit IV-3 provides a forecast for the growth of user expenditure for customer services in ECUs converted from local currency.

EXHIBIT IV-2

Country Market Growth
Customer Services, 1992-1997 (U.S. Dollars)

COUNTRY MARKET	Market Size (\$ Millions)				
	1991	GROWTH 1991-1992 (Percent)	1992	1997	CAGR 1992-1997 (Percent)
France	4,628	2.2	4,730	5,330	2.4
Germany	5,309	3.1	5,474	6,370	3.1
United Kingdom	5,538	0.9	5,590	6,640	3.5
Italy	3,365	3.2	3,474	4,300	4.4
Sweden	1,101	6.1	1,168	1,460	4.6
Denmark	585	1.0	591	680	2.9
Norway	599	3.5	620	750	3.9
Finland	455	3.3	470	560	3.6
Netherlands	1,626	3.9	1,690	2,190	5.3
Belgium/ Luxemburg	721	5.0	757	950	4.7
Spain	1,211	7.8	1,305	1,830	7.0
Switzerland	1,113	2.5	1,141	1,360	3.6
Austria	491	2.9	505	600	3.5
Portugal	131	10.7	145	230	9.7
Greece	61	8.2	66	95	7.6
Ireland	137	6.6	146	187	5.1
Eastern Europe	240	5.0	252	520	15.6
TOTALS	27,311	3.0	28,124	34,052	3.9

Note: Totals may not add due to rounding.

CAGRs calculated in local currency.

EXHIBIT IV-3

**Country Market Growth
Customer Services, 1992-1997 (ECUs)**

	Market Size (ECU Millions)				
COUNTRY MARKET	1991	GROWTH 1991-1992 (PERCENT)	1992	1997	CAGR 1992-1997 (PERCENT)
France	3,454	2.2	3,530	3,978	2.4
Germany	3,962	3.1	4,085	4,754	3.1
United Kingdom	4,133	0.9	4,172	4,955	3.5
Italy	2,511	3.2	2,593	3,209	4.4
Sweden	822	6.1	872	1,090	4.6
Denmark	437	1.0	441	507	2.9
Norway	447	3.5	463	560	3.9
Finland	340	3.3	351	418	3.6
Netherlands	1,213	3.9	1,261	1,634	5.3
Belgium/ Luxemburg	538	5.0	565	709	4.7
Spain	904	7.8	974	1,366	7.0
Switzerland	831	2.5	851	1,015	3.6
Austria	366	2.9	377	448	3.5
Portugal	98	10.7	108	172	9.7
Greece	46	8.2	49	71	7.6
Ireland	102	6.6	109	140	5.1
Eastern Europe	179	5.0	188	388	15.6
TOTALS	20,381	3.0	20,988	25,412	3.9

Note: Totals may not add due to rounding.

CAGRs calculated in local currency.

2. Service Sector Growth 1992-1997

Exhibit IV-4 provides a forecast for the growth of user expenditure for customer services in Europe segmented by service sector. Data presented in this exhibit has been converted to U.S. dollars from local currencies.

The growth of hardware service in Europe is forecast at just under 2% CAGR over the five-year period 1992 to 1997. However, this growth figure includes an allowance for inflation of approximately 4% indicating that growth of the hardware service market is declining in real terms, about a 2% decline through 1997.

In 1991 user expenditure for hardware maintenance represented 56% of the total customer services market. This figure is forecast to reduce to 51% by 1997.

Growth in the non-maintenance service sectors remains healthier than for maintenance itself. User expenditure in these sectors is forecast to grow at about 6% CAGR, a rate that is only slightly greater than the estimated rate of inflation overall in Europe.

The proportion of user expenditure for non-maintenance services is as follows:

- Systems software support; In 1992 user expenditure is estimated at about 7% of the total for customer services, growing to approximately 8% by 1997.
- Environmental services; In 1992 user expenditure is estimated at 28% of the total for customer services, growing to about 30% by 1997.
- Education and Training; In 1992 user expenditure is estimated at under 5% of the total for customer services and is falling slowly and will account for the same proportion in 1997.

Exhibit IV-5 provides a forecast for the growth of user expenditure for customer services expressed in ECUs. Data in this exhibit is segmented by service sector and has been converted from local currency to ECUs.

EXHIBIT IV-4

Customer Services Market Forecast, 1992-1997 Europe (U.S. Dollars)

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	15,685	1	15,889	16,160	16,440	16,720	17,040	17,425	2
Environmental Services	7,501	5	7,872	8,240	8,660	9,110	9,610	10,220	5
Systems Software Support	1,730	8	1,869	2,020	2,200	2,380	2,565	2,765	8
Education and Training	1,348	-4	1,300	1,305	1,330	1,375	1,450	1,560	4
Other Professional Services	742	13	835	935	1,040	1,145	1,265	1,410	11
Business Continuity Services	302	17	353	420	490	600	720	870	20
TOTAL CUSTOMER SERVICES	27,311	3	28,121	29,080	30,160	31,330	32,650	34,250	4
Annual Growth (Percent)			3	3	4	4	4	5	
ALL OTHER INFORMATION SERVICES	53,220	11	58,850	64,640	71,540	79,150	88,000	98,100	11

Note: Totals may not add due to rounding.

CAGRs calculated in local currency.

SOURCE: INPUT

EXHIBIT IV-5

Customer Services Market Forecast, 1992-1997 Europe (ECUs)

SERVICE SECTOR	Market Size (ECU Millions)								
	1991	ANNUAL GROWTH % 1991- 1992	1992	1993	1994	1995	1996	1997	CAGR % 1992- 1997
Hardware Service	11,705	1	11,857	12,060	12,269	12,478	12,716	13,004	2
Environmental Services	5,598	5	5,875	6,149	6,463	6,799	7,172	7,627	5
Systems Software Support	1,291	8	1,395	1,507	1,642	1,776	1,914	2,063	8
Education and Training	1,006	-4	970	974	993	1,026	1,082	1,164	4
Other Professional Services	554	13	623	698	776	854	944	1,052	11
Business Continuity Services	225	17	263	313	366	448	537	649	20
TOTAL CUSTOMER SERVICES	20,381	3	20,986	21,701	22,507	23,381	24,366	25,560	4
Annual Growth (Percent)			3	3	4	4	4	5	
ALL OTHER INFORMATION SERVICES	39,700	11	43,900	48,220	53,370	59,050	65,650	73,180	11

Note: Totals may not add due to rounding.

CAGRs calculated in local currency.

SOURCE: INPUT

V

European Customer Services - Country Market Forecasts, 1992-1997

This chapter of the study contains the exhibits which give the sizes and growth forecasts for customer services in:

- Sixteen individual Western European country markets
- The Eastern portion of Europe, shown as a single group of countries in one set of exhibits (see Chapter I for the list of countries covered).

The analyses are presented in local currency for each individual country market, structured as a set of two exhibits:

- Market Structure in 1991, which is INPUT's measurement of total user expenditure for customer services. The structure of the market is segmented by the top ten leading vendors in each country and identifies the revenues of the five types of vendors that are active in the market:
 - Systems Vendors
 - Independent Maintenance Organisations
 - Dealers, Distributors and VARs
 - Independent Software and Services Vendors
 - Non-Industry Vendors.

- A five-year forecast for the growth of user expenditure for customer services covering the period 1992 to 1997, and the base year of 1991. Each country market forecast is segmented by service sector:
 - Hardware Service
 - Environmental Services
 - Systems Software Support
 - Education and Training
 - Other Professional Services
 - Business Continuity Services.

The country markets included in the forecast are as follows:

- France; Exhibits V-1 to V-2
- Germany; Exhibits V-3 to V-4
- The United Kingdom; Exhibits V-5 to V-6
- Italy; Exhibits V-7 to V-8
- Sweden; Exhibits V-9 to V-10
- Denmark; Exhibits V-11 to V-12
- Norway; Exhibits V-13 to V-14
- Finland; Exhibits V-15 to V-16
- The Netherlands; Exhibits V-17 to V-18
- Belgium; Exhibits V-19 to V-20
- Spain; Exhibits V-21 to V-22
- Switzerland; Exhibits V-23 to V-24
- Austria; Exhibits V-25 to V-26
- Greece; Exhibits V-27 to V-28
- Ireland; Exhibits V-29 to V-30
- Portugal; Exhibits V-31 to V-32
- Eastern Europe; Exhibits V-33 to V-34.

The equivalent exhibits showing market sizes and growth rates in U.S. dollars are contained in Appendix C.

EXHIBIT V-1

Customer Services Revenues, 1991 - France (FF Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	2,745	212	0	220	145	5	3,327	1,456
Bull	2,305	52	155	192	52	21	2,777	974
Digital	1,088	192	93	109	52	10	1,544	197
Thomainfor	969	0	0	0	0	0	969	0
Unisys	466	207	52	78	78	10	891	254
AT&T/NCR	622	88	16	93	57	5	881	215
Siemens Nixdorf	673	31	0	36	16	5	761	104
Olivetti	622	16	5	5	16	5	669	0
Hewlett-Packard	477	21	16	41	26	10	591	0
Wang	316	44	62	34	35	0	491	0
Other System Vendors	2,568	186	257	155	142	3	3,311	91
IMOs (1)	1,111	20	20	15	60	15	1,241	0
VARs (2)	220	5	10	12	5	0	252	0
ISVs (3)	200	0	380	285	0	205	1,070	0
Non-Industry Vendors (4)	0	5,200	0	0	0	0	5,200	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	14,382	6,274	1,066	1,275	684	294	23,975	3,291

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-2

Customer Services Market Forecast, 1992-1997 France

	Market Size (FF Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	14,382	1	14,500	14,645	14,791	14,939	15,089	15,316	1
Environmental Services	6,274	5	6,590	6,920	7,265	7,629	8,010	8,411	5
Systems Software Support	1,066	3	1,100	1,155	1,213	1,273	1,337	1,404	5
Education and Training	1,275	-6	1,200	1,188	1,188	1,224	1,285	1,420	3
Other Professional Services	684	13	770	855	940	1,025	1,107	1,195	9
Business Continuity Services	294	16	340	394	461	545	648	771	18
TOTAL CUSTOMER SERVICES	23,975	2	24,500	25,157	25,859	26,634	27,476	28,517	3
Annual Growth (Percent)			2	3	3	3	3	4	
*ALL OTHER SERVICES	3,291	6	3,500	3,745	4,045	4,409	4,894	5,470	9

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

CAGRs calculated in local currency.

EXHIBIT V-3

Customer Services Revenues, 1991 - Germany (DM Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'Y SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Siemens Nixdorf	1,094	73	0	68	15	8	1,258	152
IBM	965	91	0	91	52	2	1,201	524
Digital	433	82	38	50	20	5	628	79
AT&T/NCR	205	29	6	30	18	3	291	71
PrimeService	114	20	18	15	9	1	177	0
Hewlett-Packard	141	8	5	12	8	2	176	0
Memorex	148	0	0	0	0	0	148	0
Unisys	91	23	8	12	9	5	148	43
Bull	112	9	9	6	8	2	146	49
Olivetti	126	3	5	1	8	2	145	0
Other System Vendors	850	50	100	50	0	5	1,055	0
IMOs (1)	205	0	10	10	0	2	227	0
VARs (2)	160	10	50	5	0	0	225	0
ISVs (3)	70	0	280	80	0	65	495	0
Non-Industry Vendors (4)	0	1,750	0	0	0	0	1,750	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	4,714	2,148	529	430	147	102	8,070	918

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-4

Customer Services Market Forecast, 1992-1997 Germany

	Market Size (DM Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	4,714	1	4,750	4,790	4,830	4,880	4,950	5,050	1
Environmental Services	2,148	7	2,300	2,440	2,560	2,660	2,740	2,880	5
Systems Software Support	529	8	570	610	650	700	750	800	7
Education and Training	430	0	430	430	440	450	470	490	3
Other Professional Services	147	9	160	170	190	210	230	250	9
Business Continuity Services	102	8	110	120	130	150	170	200	13
TOTAL CUSTOMER SERVICES	8,070	3	8,320	8,560	8,800	9,050	9,310	9,670	3
Annual Growth (Percent)			3	3	3	3	3	4	
*ALL OTHER SERVICES	918	9	1,000	1,080	1,160	1,230	1,290	1,350	6

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-5

Customer Services Revenues, 1991 - United Kingdom (£ Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	236	43	0	20	24	1	324	140
Digital	171	35	58	15	9	2	290	37
ICL	229	27	16	8	3	0	283	124
Hewlett-Packard	81	4	15	6	5	2	113	0
Unisys	72	16	8	6	5	3	110	32
PrimeService	45	11	21	11	4	0	92	0
Granada	81	10	0	0	0	0	91	0
AT&T/NCR	59	9	2	10	5	2	87	24
Olivetti	67	0	1	6	2	1	77	0
Bull	49	3	6	4	2	1	65	21
Other System Vendors	244	23	43	18	18	3	349	3
IMOs (1)	229	3	2	2	2	3	241	0
VARs (2)	25	1	3	2	1	0	32	0
ISVs (3)	22	0	80	15	0	25	142	0
Non-Industry Vendors (4)	0	650	0	0	0	0	650	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	1,610	835	255	123	80	43	2,946	381

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-6

Customer Services Market Forecast, 1992-1997 United Kingdom

	Market Size (£ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	1,610	-1	1,600	1,620	1,640	1,660	1,680	1,710	1
Environmental Services	835	2	850	860	880	910	950	1,000	3
Systems Software Support	255	8	275	300	330	360	390	420	9
Education and Training	123	-15	104	97	97	97	101	106	0
Other Professional Services	80	13	90	100	110	120	140	160	12
Business Continuity Services	43	28	55	70	90	110	130	150	22
TOTAL CUSTOMER SERVICES	2,946	0	2,974	3,050	3,150	3,260	3,390	3,550	4
Annual Growth (Percent)			1	3	3	3	4	5	
* ALL OTHER SERVICES	360	8	390	430	470	520	570	650	11

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-7

Customer Services Revenues, 1991 - Italy (LIT Billions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	531	46	0	44	29	0	650	265
Olivetti	408	46	21	3	12	1	491	288
Digital	130	40	43	17	10	2	242	213
Bull	144	10	12	6	7	1	180	60
AT&T/NCR	63	9	2	9	6	0	89	21
Hewlett-Packard	71	3	12	5	3	0	94	0
Siemens Nixdorf	69	5	0	6	2	1	83	12
Unisys	52	8	6	5	2	1	74	24
Memorex	52	0	0	0	0	0	52	0
PrimeService	29	7	16	5	3	0	60	0
Other System Vendors	550	56	45	48	18	18	735	87
IMOs (1)	165	5	2	1	2	0	175	0
VARs (2)	65	5	1	2	2	0	75	0
ISVs (3)	6	0	50	14	0	0	70	0
Non-Industry Vendors (4)	0	800	0	0	0	0	800	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	2,335	1,040	210	165	96	24	3,870	970

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-8

Customer Services Market Forecast, 1992-1997 Italy

	Market Size (LIT Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	2,335	1	2,355	2,390	2,430	2,470	2,510	2,550	2
Environmental Services	1,040	7	1,113	1,190	1,270	1,360	1,460	1,560	7
Systems Software Support	210	10	230	250	280	310	340	370	10
Education and Training	165	-3	160	160	160	170	190	210	6
Other Professional Services	96	15	110	120	130	140	160	180	10
Business Continuity Services	24	13	27	30	30	40	50	60	17
TOTAL CUSTOMER SERVICES	3,870	3	3,995	4,140	4,300	4,490	4,710	4,930	4
Annual Growth (Percent)			3	4	4	4	5	5	
*ALL OTHER SERVICES	970	8	1,050	1,130	1,220	1,320	1,430	1,550	8

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-9

Customer Services Revenues, 1991 - Sweden (SK Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	693	33	0	65	28	1	820	355
Digital	499	105	39	54	28	11	736	93
ICL	554	28	66	17	22	0	687	66
Unisys	166	22	22	17	11	6	244	68
AT&T/NCR	161	22	6	22	17	0	228	55
Siemens Nixdorf	111	17	0	11	6	0	145	21
Wang	55	8	14	6	6	0	89	0
Norsk Data	68	3	26	15	12	0	124	0
Bull	72	6	11	6	0	0	95	33
Hewlett-Packard	78	3	2	3	3	0	89	0
PrimeService	50	11	11	11	6	0	89	0
Other System Vendors	412	55	103	45	76	10	701	79
IMOs (1)	290	3	3	3	4	5	308	0
VARs (2)	120	2	3	3	2	0	130	0
ISVs (3)	25	2	64	42	2	30	165	0
Non-Industry Vendors (4)	0	1,450	0	0	0	0	1,450	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	3,354	1,770	370	320	223	63	6,100	770

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-10

Customer Services Market Forecast, 1992-1997 Sweden

SERVICE SECTOR	Market Size (SK Millions)								
	1991	ANNUAL GROWTH % 1991- 1992	1992	1993	1994	1995	1996	1997	CAGR % 1992- 1997
Hardware Service	3,354	6	3,545	3,690	3,800	3,880	3,940	4,000	2
Environmental Services	1,770	5	1,862	1,960	2,060	2,160	2,270	2,400	5
Systems Software Support	370	12	415	460	510	560	600	640	9
Education and Training	320	0	320	350	380	410	430	450	7
Other Professional Services	223	17	260	290	320	360	400	430	11
Business Continuity Services	63	8	68	80	90	100	120	140	16
TOTAL CUSTOMER SERVICES	6,100	6	6,470	6,830	7,160	7,470	7,760	8,060	4
Annual Growth (Percent)			6	6	5	4	4	4	
*ALL OTHER SERVICES	770	8	830	900	960	1,020	1,070	1,120	6

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-11

Customer Services Revenues, 1991 - Denmark (DK Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	530	47	0	43	30	0	650	477
ICL	218	12	0	6	0	0	236	18
Olivetti	206	1	3	2	2	0	214	0
Digital	130	35	12	18	12	0	207	27
AT&T/NCR	82	12	6	12	6	0	118	29
Siemens Nixdorf	89	6	0	12	6	0	113	18
PrimeService	82	12	6	6	6	0	112	0
Unisys	59	12	12	6	6	0	95	27
Bull	41	12	6	6	12	0	77	24
Hewlett-Packard	59	1	1	3	2	0	66	0
Other System Vendors	300	18	95	40	15	0	468	25
IMOs (1)	47	13	15	2	12	2	91	0
VARs (2)	12	2	2	2	1	1	20	10
ISVs (3)	20	0	40	10	0	7	77	0
Non-Industry Vendors (4)	0	900	0	0	0	0	900	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	1,875	1,083	198	168	110	10	3,444	655

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-12

Customer Services Market Forecast, 1992-1997 Denmark

SERVICE SECTOR	Market Size (DK Millions)								
	1991	ANNUAL GROWTH % 1991- 1992	1992	1993	1994	1995	1996	1997	CAGR % 1992- 1997
Hardware Service	1,875	-1	1,850	1,820	1,790	1,760	1,730	1,700	-2
Environmental Services	1,083	2	1,100	1,155	1,225	1,310	1,415	1,500	6
Systems Software Support	198	11	220	240	260	280	300	320	8
Education and Training	168	1	170	170	170	180	190	210	4
Other Professional Services	110	18	130	150	170	190	210	240	13
Business Continuity Services	10	20	12	14	16	20	25	30	20
TOTAL CUSTOMER SERVICES	3,444	0	3,482	3,550	3,630	3,740	3,870	4,000	3
Annual Growth (Percent)			1	2	2	3	3	3	
*ALL OTHER SERVICES	655	10	720	780	830	880	920	970	6

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-13

Customer Services Revenues, 1991 - Norway (NK Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'Y SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Norsk Data	290	28	120	60	30	3	531	0
IBM	330	30	0	35	18	2	415	180
Digital	132	18	12	15	6	0	183	24
Olivetti	144	6	6	1	1	0	158	0
ICL	108	18	10	15	0	0	151	0
Siemens Nixdorf	108	6	0	12	3	0	129	12
AT&T/NCR	78	12	6	12	13	0	121	24
Bull	66	6	12	6	12	0	102	0
Wang	25	2	4	3	2	0	36	0
PrimeService	30	6	6	6	3	0	51	0
Other System Vendors	406	44	67	87	29	2	635	20
IMOs (1)	70	10	2	2	5	1	90	0
VARs (2)	13	3	0	1	2	1	20	0
ISVs (3)	20	1	40	15	3	29	108	0
Non-Industry Vendors (4)	0	850	0	0	0	0	850	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	1,820	1,040	285	270	127	38	3,580	260

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-14

Customer Services Market Forecast, 1992-1997 Norway

	Market Size (NK Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	1,820	0	1,825	1,830	1,840	1,860	1,880	1,920	1
Environmental Services	1,040	7	1,110	1,180	1,250	1,310	1,380	1,460	6
Systems Software Support	285	5	300	320	340	370	400	440	8
Education and Training	270	7	290	300	310	310	330	350	4
Other Professional Services	127	10	140	150	160	170	180	190	6
Business Continuity Services	38	18	45	50	60	70	90	110	20
TOTAL CUSTOMER SERVICES	3,580	4	3,710	3,830	3,960	4,090	4,260	4,470	4
Annual Growth (Percent)			4	3	3	3	4	5	
*ALL OTHER SERVICES	260	8	280	310	330	350	370	400	7

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-15

Customer Services Revenues, 1991 - Finland (FM Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
ICL	394	21	42	8	21	1	487	17
Digital	137	33	17	17	8	4	216	27
IBM	166	17	0	14	8	1	206	87
Unisys	62	8	4	6	5	0	85	21
Siemens Nixdorf	66	4	5	2	1	0	78	4
AT&T/NCR	25	4	0	4	4	0	37	8
Olivetti	29	0	0	1	0	0	30	0
Rank Xerox	21	0	0	2	1	0	24	0
PrimeService	10	4	4	2	1	0	21	0
Memorex	12	0	0	0	0	0	12	0
Other System Vendors	63	13	27	33	12	2	150	0
IMOs (1)	37	1	1	0	1	1	41	0
VARs (2)	8	1	0	1	0	0	10	0
ISVs (3)	10	0	20	6	1	23	60	0
Non-Industry Vendors (4)	0	434	0	0	0	0	434	0
TOTAL MARKET	1,040	540	120	95	63	32	1,890	164

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-16

Customer Services Market Forecast, 1992-1997 Finland

	Market Size (FM Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	1,040	1	1,050	1,060	1,070	1,080	1,090	1,100	1
Environmental Services	540	6	570	600	630	660	690	720	5
Systems Software Support	120	8	130	140	150	160	170	190	8
Education and Training	95	-1	94	94	96	98	101	104	2
Other Professional Services	63	11	70	80	90	100	110	120	11
Business Continuity Services	32	13	36	40	50	60	70	90	20
TOTAL CUSTOMER SERVICES	1,890	0	1,950	2,010	2,090	2,160	2,230	2,320	4
Annual Growth (Percent)			3	3	4	3	3	4	
*ALL OTHER SERVICES	164	10	180	200	220	240	260	280	9

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-17

Customer Services Revenues, 1991 - Netherlands (Dfl Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRONMENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Digital	260	48	21	26	10	3	368	47
Getronics	144	55	60	5	77	17	358	34
IBM	282	26	0	27	15	2	352	156
Unisys	86	14	12	10	5	2	129	36
AT&T/NCR	65	9	2	10	7	0	93	19
Bull	51	5	7	5	3	0	71	24
Hewlett-Packard	51	3	2	5	2	3	66	0
Siemens Nixdorf	55	3	0	3	0	1	62	10
Olivetti	48	1	1	1	1	0	52	0
ICL	36	3	5	2	0	0	46	12
Other System Vendors	300	24	34	10	4	2	374	12
IMOs (1)	110	1	5	2	0	0	118	0
VARs (2)	20	1	1	1	1	0	24	0
ISVs (3)	12	2	20	23	0	5	62	0
Non-Industry Vendors (4)	0	605	0	0	0	0	605	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	1,520	800	170	130	125	35	2,780	350

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-18

Customer Services Market Forecast, 1992-1997 Netherlands

SERVICE SECTOR	Market Size (Dfl Millions)								
	1991	ANNUAL GROWTH % 1991- 1992	1992	1993	1994	1995	1996	1997	CAGR % 1992- 1997
Hardware Service	1,520	3	1,570	1,620	1,670	1,720	1,770	1,820	3
Environmental Services	800	3	825	860	900	970	1,070	1,210	8
Systems Software Support	170	9	185	200	210	220	230	240	5
Education and Training	130	0	130	130	130	130	140	150	3
Other Professional Services	125	12	140	150	170	180	200	230	10
Business Continuity Services	35	14	40	50	60	70	80	100	20
TOTAL CUSTOMER SERVICES	2,780	4	2,890	3,010	3,140	3,290	3,490	3,750	5
Annual Growth (Percent)			4	4	4	5	6	7	
*ALL OTHER SERVICES	350	7	375	400	430	460	490	530	7

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-19

Customer Services Revenues, 1991 - Belgium (BF Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	2,501	219	0	205	156	0	3,081	1,407
Digital	1,726	281	306	125	63	0	2,501	313
Siemens Nixdorf	1,407	94	0	63	16	0	1,580	281
Unisys	938	94	94	94	31	0	1,251	350
Bull	907	94	94	63	31	0	1,189	375
Olivetti	1,000	9	63	47	63	0	1,182	0
Hewlett-Packard	700	31	69	63	31	63	957	0
Memorex	691	0	0	0	0	0	691	0
AT&T/NCR	469	63	31	63	31	0	657	125
Wang	394	38	63	44	31	0	570	0
Other System Vendors	942	152	140	178	100	16	1,528	49
IMOs (1)	1,700	20	20	15	1	21	1,777	0
VARs (2)	300	0	10	6	6	0	322	0
ISVs (3)	75	5	290	164	10	100	644	0
Non-Industry Vendors (4)	0	4,600	0	0	0	0	4,600	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	13,750	5,700	1,180	1,130	570	200	22,530	2,900

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-20

Customer Services Market Forecast, 1992-1997 Belgium

SERVICE SECTOR	Market Size (BF Millions)								
	1991	ANNUAL GROWTH % 1991- 1992	1992	1993	1994	1995	1996	1997	CAGR % 1992- 1997
Hardware Service	13,750	5	14,400	14,980	15,500	15,970	16,450	16,940	3
Environmental Services	5,700	5	5,975	6,270	6,580	6,910	7,260	7,620	5
Systems Software Support	1,180	10	1,300	1,430	1,570	1,730	1,900	2,090	10
Education and Training	1,130	1	1,145	1,160	1,180	1,220	1,280	1,370	4
Other Professional Services	570	9	620	680	750	830	930	1,060	11
Business Continuity Services	200	5	210	230	250	290	340	430	15
TOTAL CUSTOMER SERVICES	22,530	5	23,650	24,750	25,830	26,950	28,160	29,510	5
Annual Growth (Percent)			5	5	4	4	4	5	
*ALL OTHER SERVICES	2,900	10	3,200	3,520	3,870	4,260	4,690	5,160	10

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-21

Customer Services Revenues, 1991 - Spain (Pta Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'Y SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	13,950	1,732	0	1,280	673	0	17,635	7,700
Digital	7,000	1,154	1,369	433	289	0	10,245	1,251
AT&T/NCR	7,215	962	289	962	577	96	10,101	2,500
Siemens Nixdorf	6,253	385	0	577	192	0	7,407	962
Unisys	4,811	480	866	482	192	48	6,879	1,924
Hewlett-Packard	4,502	289	885	481	289	0	6,446	0
Olivetti	5,772	192	241	48	48	0	6,301	0
Bull	2,886	96	385	192	96	0	3,655	963
Eltec	3,400	0	0	0	0	0	3,400	0
PrimeService	1,441	289	241	290	144	0	2,405	0
Other System Vendors	4,500	261	494	450	100	11	5,816	100
IMOs (1)	8,050	50	40	45	50	5	8,240	0
VARs (2)	1,220	10	40	20	50	0	1,340	0
ISVs (3)	0	0	1,150	250	0	240	1,640	0
Non-Industry Vendors (4)	0	25,000	0	0	0	0	25,000	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	71,000	30,900	6,000	5,510	2,700	400	116,510	15,400

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-22

Customer Services Market Forecast, 1992-1997 Spain

	Market Size (Pta Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	71,000	6	75,250	79,770	83,760	87,950	91,470	94,000	5
Environmental Services	30,900	10	34,000	37,400	41,140	45,250	49,780	55,000	10
Systems Software Support	6,000	13	6,800	7,680	8,680	8,810	11,000	12,300	13
Education and Training	5,510	4	5,750	5,980	6,220	6,410	6,600	6,900	4
Other Professional Services	2,700	20	3,250	3,840	4,420	5,080	5,740	6,400	15
Business Continuity Services	400	13	450	520	620	780	980	1,200	22
TOTAL CUSTOMER SERVICES	116,510	8	125,500	135,200	144,800	155,300	165,600	175,800	7
Annual Growth (Percent)			8	8	7	7	7	6	
*ALL OTHER SERVICES	15,400	13	17,400	20,010	23,410	28,090	33,150	38,120	17

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-23

Customer Services Revenues, 1991 - Switzerland (SF Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Digital	120	28	11	14	7	1	181	23
AT&T/NCR	128	16	4	20	11	1	180	42
IBM	122	8	0	8	5	1	144	62
Unisys	88	7	12	9	1	0	117	33
Siemens Nixdorf	65	5	0	4	1	0	75	12
Hewlett Packard	27	1	4	1	1	1	35	0
Bull	26	1	1	1	0	0	29	8
Olivetti	24	0	1	0	0	0	25	0
PrimeService	8	2	1	1	1	0	13	0
ICL	9	1	1	0	0	0	11	0
Memorex	11	0	0	0	0	0	11	0
Other System Vendors	110	12	25	20	20	1	188	20
IMOs (1)	21	2	2	0	1	1	27	0
VARs (2)	11	1	0	0	0	0	12	0
ISVs (3)	0	1	20	10	0	4	35	0
Non-Industry Vendors (4)	0	420	0	0	0	0	420	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	770	505	82	88	48	10	1,500	200

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-24

Customer Services Market Forecast, 1992-1997 Switzerland

	Market Size (SF Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	770	1	780	790	800	810	830	850	2
Environmental Services	505	4	523	540	560	580	600	620	3
Systems Software Support	82	9	89	100	110	120	130	140	9
Education and Training	88	-3	85	86	87	90	94	99	3
Other Professional Services	48	6	51	54	57	60	63	66	5
Business Continuity Services	10	20	12	14	17	20	23	28	18
TOTAL CUSTOMER SERVICES	1,503	2	1,540	1,580	16,30	1,680	1,740	1,800	3
Annual Growth (Percent)			2	3	3	3	4	3	
*ALL OTHER SERVICES	200	6	212	230	250	270	290	310	8

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-25

Customer Services Revenues, 1991 - Austria (Sch Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Digital	760.0	38.0	135.0	42.0	45.0	1.0	1,021.0	68.0
IBM	738.0	53.0	0.0	38.0	32.0	2.0	863.0	298.0
Siemens Nixdorf	578.0	21.0	0.0	37.0	11.0	0.0	647.0	64.0
Unisys	106.0	11.0	15.0	11.0	3.0	1.0	147.0	35.0
Hewlett-Packard	106.0	3.0	14.0	11.0	5.0	1.0	140.0	0.0
PrimeService	83.0	16.0	26.0	5.0	2.0	0.0	132.0	0.0
AT&T/NCR	74.0	11.0	11.0	21.0	0.0	11.0	128.0	21.0
Rank Xerox	63.0	1.0	0.0	0.0	0.0	0.0	64.0	0.0
Thomainfor	53.0	1.0	0.0	0.0	0.0	0.0	54.0	0.0
Memorex	51.0	0.0	0.0	0.0	0.0	0.0	51.0	0.0
Other System Vendors	260.0	50.0	87.0	50.0	0.0	1.0	448.0	14.0
IMOs (1)	65.5	35.0	5.0	2.0	0.0	0.0	107.5	0.0
VARs (2)	30.0	5.0	2.0	1.0	0.0	0.0	38.0	0.0
ISVs (3)	7.5	0.0	75.0	32.0	2.0	18.0	134.5	0.0
Non-Industry Vendors (4)	0.0	1,240.0	0.0	0.0	0.0	0.0	1,240.0	0.0
TOTAL MARKET	2,975.0	1,485.0	370.0	250.0	100.0	35.0	5,215.0	500.0

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-26

Customer Services Market Forecast, 1992-1997 Austria

	Market Size (Sch Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	2,975	3	3,050	3,120	3,190	3,250	3,300	3,330	2
Environmental Services	1,485	4	1,545	1,610	1,670	1,740	1,810	1,880	4
Systems Software Support	370	5	390	410	440	480	520	560	8
Education and Training	250	-6	235	240	240	250	260	270	3
Other Professional Services	100	10	110	120	130	140	150	170	9
Business Continuity Services	35	14	40	50	60	70	80	100	20
TOTAL CUSTOMER SERVICES	5,215	3	5,370	5,550	5,730	5,930	6,120	6,310	3
Annual Growth (Percent)			3	3	3	3	3	3	
*ALL OTHER SERVICES	500	14	570	610	650	680	710	750	6

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-27

Customer Services Revenues, 1991 - Greece (Dra Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	2,610	175	0	295	175	0	3,255	1,218
Digital	1,745	52	261	226	174	0	2,458	313
Siemens Nixdorf	875	175	0	35	0	0	1,085	174
AT&T/NCR	522	0	0	174	0	0	696	175
Bull	348	175	0	0	0	0	523	175
Hewlett-Packard	348	0	17	17	18	0	400	0
Olivetti	346	18	18	18	0	0	400	0
PrimeService	175	36	50	75	17	0	353	0
Unisys	175	50	17	55	0	0	297	0
Sun Microsystems	36	2	1	1	1	0	41	0
Other System Vendors	200	2	24	60	0	1	287	0
IMOs (1)	0	0	0	0	0	0	0	0
VARs (2)	800	0	0	0	0	0	800	0
ISVs (3)	80	0	0	0	0	0	80	0
Non-Industry Vendors (4)	0	0	0	0	0	0	0	0
TOTAL MARKET	8,260	685	388	956	385	1	10,675	2,055

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-28

Customer Services Market Forecast, 1992-1997 Greece

	Market Size (Dra Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	8,260	5	8,700	9,140	9,600	10,080	10,580	11,110	5
Environmental Services	685	5	720	760	800	840	880	920	5
Systems Software Support	388	16	450	520	600	690	790	910	15
Education and Training	956	8	1,030	1,100	1,180	1,260	1,350	1,440	7
Other Professional Services	385	19	460	640	640	760	900	1,060	18
Business Continuity Services	1	9,900	100	200	200	200	200	200	15
TOTAL CUSTOMER SERVICES	10,675	7	11,460	12,360	13,020	13,830	14,700	15,640	6
Annual Growth (Percent)			7	8	5	6	6	6	
*ALL OTHER SERVICES	2,055	15	2,365	2,370	2,370	2,370	2,370	2,370	0

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-29

Customer Services Revenues, 1991 - Ireland (IR £ Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRONMENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Digital	9.0	1.0	1.0	1.0	1.0	0.0	13.0	2.0
IBM	9.0	1.0	0.0	1.0	1.0	0.0	12.0	3.0
Siemens/Nixdorf	2.0	1.0	0.1	0.1	0.0	0.0	3.2	0.0
AT&T/NCR	2.0	0.0	0.2	0.8	0.0	0.0	3.0	1.0
Bull	2.0	0.0	0.1	0.2	0.0	0.0	2.3	1.0
Hewlett-Packard	1.0	0.0	0.2	0.2	0.0	0.2	1.6	0.0
ICL	1.0	0.0	0.2	0.2	0.0	0.0	1.4	0.0
Sun								
Microsystems	1.0	0.1	0.2	0.1	0.0	0.0	1.4	0.0
Olivetti	1.0	0.0	0.3	0.1	0.0	0.0	1.4	0.0
PrimeService	1.0	0.1	0.2	0.1	0.0	0.0	1.4	0.0
Rank Xerox	1.0	0.0	0.2	0.0	0.0	0.0	1.2	0.0
Memorex	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Other System Vendors	3.0	0.8	1.0	1.1	0.0	0.0	5.9	0.0
IMOs (1)	5.0	0.0	0.3	0.0	0.0	0.0	5.3	0.0
VARs (2)	0.5	0.0	0.1	0.0	0.0	0.0	0.6	0.0
ISVs (3)	0.5	0.0	5.0	0.3	0.0	2.5	8.3	0.0
Non-Industry Vendors (4)	0.0	15.0	0.0	0.0	0.0	0.0	15.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL MARKET	40.0	19.0	9.1	5.2	2.0	2.7	78.0	7.0

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-30

Customer Services Market Forecast, 1992-1997 Ireland

	Market Size (IR £ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	40	5	42	44	45	46	47	48	3
Environmental Services	19	5	20	21	22	23	23	24	4
Systems Software Support	9	10	10	11	12	13	14	15	8
Education and Training	5	8	6	6	6	7	7	7	5
Other Professional Services	2	10	2	2	3	3	3	4	10
Business Continuity Services	3	19	3	4	5	6	7	8	21
TOTAL CUSTOMER SERVICES	78	6	83	88	93	98	101	106	5
Annual Growth (Percent)			6	6	5	5	4	5	
*ALL OTHER SERVICES	7	11	8	9	9	11	12	13	10

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-31

Customer Services Revenues, 1991 - Portugal (Esc Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	2,698	270	0	229	135	0	3,332	1,484
Digital	2,158	405	235	135	135	0	3,068	378
Siemens Nixdorf	2,024	136	0	40	0	0	2,200	270
AT&T/NCR	675	135	0	135	135	0	1,080	135
Olivetti	675	13	27	13	0	0	728	0
Unisys	270	67	27	40	13	0	417	67
Bull	270	135	0	0	0	0	405	135
Hewlett-Packard	243	0	40	27	13	0	323	0
Prime Service	136	26	15	38	14	0	229	0
Rank Xerox	162	0	0	0	0	0	162	0
Other System Vendors	339	113	100	120	130	0	802	30
IMOs (1)	600	0	45	20	10	0	675	1
VARs (2)	250	0	11	3	15	0	279	0
ISVs (3)	0	0	1,100	0	0	400	1,500	0
Non-Industry Vendors (4)	0	2,500	0	0	0	0	2,500	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	10,500	3,800	1,600	800	600	400	17,700	2,500

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-32

Customer Services Market Forecast, 1992-1997 Portugal

	Market Size (Esc Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	10,500	8	11,350	12,400	13,600	15,000	16,500	17,800	9
Environmental Services	3,800	11	4,200	4,600	5,000	5,400	5,700	6,000	7
Systems Software Support	1,600	16	1,850	2,100	2,400	2,700	3,000	3,300	12
Education and Training	800	13	900	1,000	1,100	1,200	1,300	1,400	9
Other Professional Services	600	17	700	800	900	1,000	1,100	1,200	11
Business Continuity Services	400	25	500	600	700	900	1,100	1,300	21
TOTAL CUSTOMER SERVICES	17,700	10	19,500	21,500	23,700	26,200	28,700	31,000	10
Annual Growth (Percent)			10	10	10	11	10	8	
*ALL OTHER SERVICES	2,500	20	3,000	3,600	4,200	4,900	5,600	6,300	16

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

EXHIBIT V-33

Customer Services Revenues, 1991 - Eastern Europe (\$ Millions)

Vendor Sector Revenue	HARDWARE SERVICE	ENVIRONMENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	30	1	0	1	2	0	34	10
Digital	10	8	1	2	2	0	23	3
Siemens Nixdorf	20	1	0	1	0	0	22	1
AT&T/NCR	4	1	1	1	0	0	7	2
ICL	4	1	1	1	0	0	7	1
PrimeService	2	1	1	0	1	0	5	0
Hewlett-Packard	1	1	1	0	0	0	3	0
Unisys	2	0	0	0	1	0	3	0
Bull	2	0	0	0	0	0	2	0
Olivetti	1	0	0	0	1	0	2	0
Other System Vendors	32	3	7	3	2	0	47	0
IMOs (1)	0	0	0	0	0	0	0	0
VARs (2)	52	4	2	1	1	0	60	0
ISVs (3)	0	0	0	2	0	0	2	0
Non-Industry Vendors (4)	0	24	0	0	0	0	24	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	160	45	13	12	10	0	240	17

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT V-34

Customer Services Market Forecast, 1992-1997 Eastern Europe

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	160	3	164	172	185	204	235	294	12
Environmental Services	45	2	46	48	53	63	80	108	19
Systems Software Support	13	12	15	16	18	20	22	25	12
Education and Training	12	17	14	16	19	22	26	30	16
Other Professional Services	10	20	12	14	17	20	24	29	19
Business Continuity Services	0	-	1	2	4	10	20	36	105
TOTAL CUSTOMER SERVICES	240	5	252	270	400	340	410	520	16
Annual Growth (Percent)			5	7	11	13	21	27	
*ALL OTHER SERVICES	240	18	284	340	410	510	640	800	23

SOURCE: INPUT

*This line shows the expenditures for other information services spent with customer services vendors as defined in Chapter III section B-1.

Totals may not add due to rounding.

A Leading Equipment Vendor Customer Services Revenues

EXHIBIT A-1

European Revenues - Amdahl Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	125.3	4	20	10	8	1.7	169	0
France	19	0.5	3.5	1.1	1.5	0.4	26	0
Germany	31	1	6	2.8	2.5	0.5	43.8	0
United Kingdom	30	0.9	5	2.3	2.5	0.3	41	0
Italy	10.3	0.2	2	0.8	0.5	0.1	13.9	0
Sweden	5	0.2	0.7	0.5	0.1	0.1	6.6	0
Denmark	4	0.1	0.3	0.3	0.2	0	4.9	0
Norway	2	0.1	0.1	0.1	0.2	0	2.5	0
Finland	1	0	0.1	0.1	0.1	0	1.3	0
Netherlands	10	0.2	1	0.6	0.1	0.1	12	0
Belgium/ Luxemburg	6.2	0.1	0.3	0.2	0.1	0.1	7	0
Spain	4	0.2	0.7	0.7	0.1	0.1	5.8	0
Switzerland	2	0.2	0	0.1	0.1	0	2.4	0
Austria	0.5	0	0	0.1	0	0	0.6	0
Portugal	0	0	0.1	0.1	0	0	0.2	0
Greece	0	0	0.1	0	0	0	0.1	0
Ireland	0.1	0	0.1	0.1	0	0	0.3	0
Eastern Europe	0.2	0.3	0	0.1	0	0	0.6	0

Note: Totals may not add due to rounding.

EXHIBIT A-2

European Revenues - AT&T/NCR Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	727	101	26	112	66	8	1,040	255
France	120	17	3	18	11	1	170	41.5
Germany	135	19	4	20	12	2	192	47
United Kingdom	110	16	4	18	10	3	161	44.5
Italy	55	8	2	8	5	0	78	18
Sweden	29	4	1	4	3	0	41	10
Denmark	14	2	1	2	1	0	20	5
Norway	13	2	1	2	2	0	20	4
Finland	6	1	0	1	1	0	9	2
Netherlands	38	5	1	6	4	0	54	11
Belgium/ Luxemburg	15	2	1	2	1	0	21	4
Spain	75	10	3	10	6	1	105	26
Switzerland	95	12	3	15	8	1	134	35
Austria	7	1	1	2	1	0	12	2
Portugal	5	1	0	1	1	0	8	1
Greece	3	0	0	1	0	0	4	1
Ireland	3	0	0	1	0	0	4	1
Eastern Europe	4	1	1	1	0	0	7	2

Note: Totals may not add due to rounding.

EXHIBIT A-3

European Revenues - Bull Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	895	45	75	65	33	7	1,120	375
France	445	10	30	37	10	4	536	188
Germany	74	6	6	4	5	1	96	32
United Kingdom	93	5	11	7	3	1	120	40
Italy	125	9	10	5	6	1	156	52
Sweden	13	1	2	1	0	0	17	6
Denmark	7	2	1	1	2	0	13	4
Norway	11	1	2	1	2	0	17	5
Finland	0	0	0	0	0	0	0	0
Netherlands	30	3	4	3	2	0	42	14
Belgium/ Luxemburg	29	3	3	2	1	0	38	12
Spain	30	1	4	2	1	0	38	10
Switzerland	19	1	1	1	0	0	22	6
Austria	10	1	1	1	1	0	14	3
Portugal	2	1	0	0	0	0	3	1
Greece	2	1	0	0	0	0	3	1
Ireland	3	0	0	0	0	0	3	1
Eastern Europe	2	0	0	0	0	0	2	0

Note: Totals may not add due to rounding.

EXHIBIT A-4

European Revenues - Comparex Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	120	0	0	0	0	0	120	0
France	14	0	0	0	0	0	14	0
Germany	68	0	0	0	0	0	68	0
United Kingdom	25	0	0	0	0	0	25	0
Italy	5	0	0	0	0	0	5	0
Sweden	2	0	0	0	0	0	2	0
Denmark	1	0	0	0	0	0	1	0
Norway	0	0	0	0	0	0	0	0
Finland	0	0	0	0	0	0	0	0
Netherlands	5	0	0	0	0	0	5	0
Belgium/ Luxemburg	0	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	0	0
Switzerland	0	0	0	0	0	0	0	0
Austria	0	0	0	0	0	0	0	0
Portugal	0	0	0	0	0	0	0	0
Greece	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	0
Eastern Europe	0	0	0	0	0	0	0	0

Note: Totals may not add due to rounding.

EXHIBIT A-5

European Revenues-Digital Equipment Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	1,587	315	269	159	83	17	2,430	270
France	210	37	18	21	10	2	298	37
Germany	285	54	25	33	13	3	413	42
United Kingdom	321	66	109	28	16	4	544	50
Italy	113	35	38	15	9	2	212	24
Sweden	90	19	7	10	5	2	133	17
Denmark	22	6	2	3	2	0	35	5
Norway	22	3	2	3	1	0	31	4
Finland	33	8	4	4	2	1	52	6
Netherlands	152	28	12	15	6	2	215	27
Belgium/ Luxemburg	54	9	11	4	2	0	80	10
Spain	73	12	14	5	3	0	107	13
Switzerland	89	21	9	10	5	1	135	17
Austria	71	4	13	4	4	0	96	8
Portugal	16	3	2	1	1	0	23	3
Greece	10	0	2	1	1	0	14	2
Ireland	16	2	1	2	1	0	22	3
Eastern Europe	10	8	1	2	2	0	23	3

Note: Totals may not add due to rounding.

EXHIBIT A-6

European Revenues - Getronics Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	96	36.6	43	4	48	10	237.6	27
France	0	0	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0	0
United Kingdom	0	0	0	0	0	0	0	0
Italy	0	0	0	0	0	0	0	0
Sweden	0	0	0	0	0	0	0	0
Denmark	0	0	0	0	0	0	0	0
Norway	0	0	0	0	0	0	0	0
Finland	0	0	0	0	0	0	0	0
Netherlands	84	32	35	3	45	10	209	20
Belgium/ Luxemburg	9	3.4	6	1	3	0	22.4	5
Spain	3	1.2	2	0	0	0	6.2	2
Switzerland	0	0	0	0	0	0	0	0
Austria	0	0	0	0	0	0	0	0
Portugal	0	0	0	0	0	0	0	0
Greece	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	0
Eastern Europe	0	0	0	0	0	0	0	0

Note: Totals may not add due to rounding.

EXHIBIT A-7

European Revenues - Granada Computer Services Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	238	19	0	0	0	0	257	0
France	20	0	0	0	0	0	20	0
Germany	10	0	0	0	0	0	10	0
United Kingdom	151.8	19	0	0	0	0	170.8	0
Italy	4	0	0	0	0	0	4	0
Sweden	4	0	0	0	0	0	4	0
Denmark	0	0	0	0	0	0	0	0
Norway	0.1	0	0	0	0	0	0.1	0
Finland	0	0	0	0	0	0	0	0
Netherlands	20	0	0	0	0	0	20	0
Belgium/ Luxemburg	12	0	0	0	0	0	12	0
Spain	15	0	0	0	0	0	15	0
Switzerland	1.1	0	0	0	0	0	1.1	0
Austria	0	0	0	0	0	0	0	0
Portugal	0	0	0	0	0	0	0	0
Greece	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	0
Eastern Europe	0	0	0	0	0	0	0	0

Note: Totals may not add due to rounding.

EXHIBIT A-8

European Revenues - Hewlett Packard Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	565.5	30	63	45	30	10	743.5	0
France	92	4	3	8	5	2	114	0
Germany	93	5	3.2	8	5	1	115.2	0
United Kingdom	152.5	8	28.5	11	9	3	212	0
Italy	62	3	10.5	4	3	0	82.5	0
Sweden	14	0.5	0.4	0.6	0.5	0	16	0
Denmark	10	0.2	0.2	0.5	0.3	0	11.2	0
Norway	6	0	0.2	0.2	0.2	0	6.6	0
Finland	1	0	0	0	0	0	1	0
Netherlands	30	2	1	3	1	2	39	0
Belgium/ Luxemburg	22.4	1	2.2	2	1	2	30.6	0
Spain	46.8	3	9.2	5	3	0	67	0
Switzerland	20	1	2.7	1	1	0	25.7	0
Austria	10	0.3	1.3	1	0.5	0	13.1	0
Portugal	1.8	0	0.3	0.2	0.1	0	2.4	0
Greece	2	0	0.1	0.1	0.1	0	2.3	0
Ireland	1	0.3	0.1	0.2	0.1	0	1.7	0
Eastern Europe	1	1.7	0.1	0.2	0.2	0	3.2	0

Note: Totals may not add due to rounding.

EXHIBIT A-9

European Revenues - IBM Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	2,910.4	300	0	268.6	180	6	3,665	1,640
France	502.9	41	0	46.7	28	1	619.6	281
Germany	602.5	60	0	60	34	1	757.5	345
United Kingdom	421.3	80	0	37.6	45	2.35	586.25	264
Italy	450.7	40	0	41.7	25	0	557.4	230
Sweden	118.6	6	0	11.7	5	0	141.3	64
Denmark	90	8	0	8.3	5	0	111.3	81
Norway	55	5	0	6.7	3	0.4	70.1	30
Finland	40	4	0	3.3	2	0.25	49.55	21
Netherlands	165	15	0	16.7	9	1	206.7	91
Belgium/ Luxemburg	80	7	0	6.6	5	0	98.6	45
Spain	145	18	0	13.3	7	0	183.3	80
Switzerland	90	6	0	6	4	0	106	46
Austria	69.4	5	0	3.6	3	0	81	28
Portugal	20	2	0	1.7	1	0	24.7	11
Greece	15	1	0	1.7	1	0	18.7	7
Ireland	15	1	0	1.9	1	0	18.9	6
Eastern Europe	30	1	0	1.1	2	0	34.1	10

Note: Totals may not add due to rounding.

EXHIBIT A-10

European Revenues - ICL Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	790	73	61.7	28.5	14	0	967.2	300
France	40	1	1	1	0	0	43	15
Germany	13	1	0	1	0	0	15	21
United Kingdom	430	50	31	15	5	0	531	234
Italy	9	0	0	0	0	0	9	0
Sweden	100	5	12	3	4	0	124	12
Denmark	37	2	0	1	0	0	40	3
Norway	18	3	1.7	2.5	0	0	25.2	0
Finland	95	5	10	2	5	0	117	4
Netherlands	21	2	3	1	0	0	27	7
Belgium/ Luxemburg	6	1	1	0	0	0	8	3
Spain	5	1	1	1	0	0	8	0
Switzerland	7	1	0	0	0	0	8	0
Austria	3	0	0	0	0	0	3	0
Portugal	1	0	0	0	0	0	1	0
Greece	0	0	0	0	0	0	0	0
Ireland	1	0	0	0	0	0	1	0
Eastern Europe	4	1	1	1	0	0	7	1

Note: Totals may not add due to rounding.

EXHIBIT A-11

European Revenues - Memorex Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	391	0	0	0	0	0	391	0
France	78	0	0	0	0	0	78	0
Germany	97	0	0	0	0	0	97	0
United Kingdom	62	0	0	0	0	0	62	0
Italy	45	0	0	0	0	0	45	0
Sweden	18	0	0	0	0	0	18	0
Denmark	8	0	0	0	0	0	8	0
Norway	6	0	0	0	0	0	6	0
Finland	3	0	0	0	0	0	3	0
Netherlands	25	0	0	0	0	0	25	0
Belgium/ Luxemburg	22	0	0	0	0	0	22	0
Spain	11	0	0	0	0	0	11	0
Switzerland	9	0	0	0	0	0	9	0
Austria	5	0	0	0	0	0	5	0
Portugal	1	0	0	0	0	0	1	0
Greece	0	0	0	0	0	0	0	0
Ireland	1	0	0	0	0	0	1	0
Eastern Europe	0	0	0	0	0	0	0	0

Note: Totals may not add due to rounding.

EXHIBIT A-12

European Revenues - Olivetti S&N Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	904	50.4	32.5	20.3	25.1	4	1,036.3	250
France	120	3	1	1	3	1	129	0
Germany	83	2	3	0.5	5	1	94.5	0
United Kingdom	125	0.4	2	12	3	1	143.4	0
Italy	355	40	18	3	10	1	427	250
Sweden	6	0	0.2	0.2	0	0	6.4	0
Denmark	35	0.1	0.5	0.3	0.4	0	36.3	0
Norway	24	1	1	0.1	0.1	0	26.2	0
Finland	7	0.1	0	0	0.1	0	7.2	0
Netherlands	28	0.6	0.5	0.5	0.5	0	30.1	0
Belgium/ Luxemburg	32	0.3	2	1.5	2	0	37.8	0
Spain	60	2	2.5	0.5	0.5	0	65.5	0
Switzerland	18	0.1	1	0.1	0	0	19.2	0
Austria	1	0.1	0.2	0.1	0	0	1.4	0
Portugal	5	0.1	0.2	0.1	0	0	5.4	0
Greece	2	0.1	0.1	0.1	0	0	2.3	0
Ireland	2	0.1	0.1	0.1	0	0	2.3	0
Eastern Europe	1	0.4	0.2	0.2	0.5	0	2.3	0

Note: Totals may not add due to rounding.

EXHIBIT A-13

European Revenues - PrimeService Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	326	68	85	55	31	1	566	0
France	44	10	5	7	5	0	71	0
Germany	75	13	12	10	6	0	116	0
United Kingdom	85	20	39	20	8	0	172	0
Italy	25	6	14	4	3	0	52	0
Sweden	21	2	2	2	1	0	28	0
Denmark	14	2	1	1	1	0	19	0
Norway	5	1	1	1	1	0	9	0
Finland	3	1	1	1	0	0	5	0
Netherlands	15	4	2	3	2	0	26	0
Belgium/ Luxemburg	6	2	1	1	1	0	10	0
Spain	15	3	3	3	2	0	25	0
Switzerland	6	2	1	1	1	0	11	0
Austria	8	2	2	1	0	0	12	0
Portugal	1	0	0	0	0	0	2	0
Greece	1	0	0	0	0	0	2	0
Ireland	1	0	0	0	0	0	2	0
Eastern Europe	2	1	0	0	1	0	4	0

Note: Totals may not add due to rounding.

EXHIBIT A-14

European Revenues - Rank Xerox Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	184.3	1.5	2.3	2.1	2.4	0	192.6	0
France	43.1	0.2	0	0.2	0.3	0	43.8	0
Germany	37.5	0.1	1.5	0.3	0.3	0	39.7	0
United Kingdom	34	0.2	0	0.5	0.6	0	35.3	0
Italy	6.2	0.1	0	0.1	0.2	0	6.6	0
Sweden	8.6	0.1	0	0.1	0.2	0	9	0
Denmark	6	0.2	0	0	0	0	6.2	0
Norway	5.5	0.1	0.2	0.1	0.2	0	6.1	0
Finland	5	0.1	0	0.2	0.2	0	5.5	0
Netherlands	10.7	0.1	0.4	0.2	0.1	0	11.5	0
Belgium/ Luxemburg	6	0.1	0	0	0	0	6.1	0
Spain	8.5	0.1	0.2	0.3	0.3	0	9.4	0
Switzerland	4.4	0	0	0.1	0	0	4.5	0
Austria	5.9	0.1	0	0	0	0	6	0
Portugal	1.2	0	0	0	0	0	1.2	0
Greece	0.2	0	0	0	0	0	0.2	0
Ireland	1.4	0	0	0	0	0	1.4	0
Eastern Europe	0.1	0	0	0	0	0	0.1	0

Note: Totals may not add due to rounding.

EXHIBIT A-15

European Revenues - Siemens Nixdorf Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	1,311.4	93	1.2	85.55	34.55	9.3	1,535	204.8
France	130	6	0	7	3	1	147	20
Germany	720	48	0	45	10	5	828	100
United Kingdom	45	10	0	3.85	12.35	2	73.2	21
Italy	60	4	0	5	2	1	72	10
Sweden	20	3	0	2	1	0	26	3.8
Denmark	15	1	0	2	1	0	19	3
Norway	18	1	0	2	0.5	0	21.5	2
Finland	16	1	1.2	0.5	0.2	0	18.9	1
Netherlands	32	2	0	2	0	0.3	36.3	6
Belgium/ Luxemburg	45	3	0	2	0.5	0	50.5	9
Spain	65	4	0	6	2	0	77	10
Switzerland	48	4	0	3	1	0	56	9
Austria	54.4	2	0	3.5	1	0	60.9	6
Portugal	15	1	0	0.3	0	0	16.3	2
Greece	5	1	0	0.2	0	0	6.2	1
Ireland	3	1	0	0.2	0	0	4.2	0
Eastern Europe	20	1	0	1	0	0	22	1

Note: Totals may not add due to rounding.

EXHIBIT A-16

European Revenues - Sun Microsystems Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	189	13	4	6	2	0	214	13
France	38	3	1	1	1	0	43	3
Germany	47	3	1	2	1	0	54	3
United Kingdom	40	3	1	1	1	0	45	3
Italy	17	1	0	1	0	0	19	2
Sweden	4	0	0	0	0	0	4	0
Denmark	3	0	0	0	0	0	3	0
Norway	2	0	0	0	0	0	2	0
Finland	1	0	0	0	0	0	1	0
Netherlands	9	1	0	0	0	0	10	1
Belgium/ Luxemburg	7	0	0	0	0	0	8	0
Spain	11	1	0	0	0	0	13	1
Switzerland	6	0	0	0	0	0	6	0
Austria	4	0	0	0	0	0	4	0
Portugal	1	0	0	0	0	0	1	0
Greece	0	0	0	0	0	0	0	0
Ireland	1	0	0	0	0	0	1	0
Eastern Europe	0	0	0	0	0	0	0	0

Note: Totals may not add due to rounding.

EXHIBIT A-17

European Revenues - Tandem Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	119	10	4	4	2	0	139	0
France	24	2	1	0	1	0	27	0
Germany	36	3	1	2	1	0	42	0
United Kingdom	30	3	1	1	1	0	35	0
Italy	8	1	0	0	0	0	9	0
Sweden	2	0	0	0	0	0	2	0
Denmark	1	0	0	0	0	0	1	0
Norway	1	0	0	0	0	0	1	0
Finland	0	0	0	0	0	0	0	0
Netherlands	6	0	0	0	0	0	6	0
Belgium/ Luxemburg	3	0	0	0	0	0	4	0
Spain	2	0	0	0	0	0	2	0
Switzerland	6	0	0	0	0	0	6	0
Austria	1	0	0	0	0	0	1	0
Portugal	0	0	0	0	0	0	0	0
Greece	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	1	0
Eastern Europe	0	0	0	0	0	0	0	0

Note: Totals may not add due to rounding.

EXHIBIT A-18

European Revenues - Thomainfor Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	225	0	0	0	0	0	225	0
France	187	0	0	0	0	0	187	0
Germany	12	0	0	0	0	0	12	0
United Kingdom	6	0	0	0	0	0	6	0
Italy	0	0	0	0	0	0	0	0
Sweden	0	0	0	0	0	0	0	0
Denmark	0	0	0	0	0	0	0	0
Norway	0	0	0	0	0	0	0	0
Finland	0	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0
Belgium/ Luxemburg	9	0	0	0	0	0	9	0
Spain	5	0	0	0	0	0	5	0
Switzerland	1	0	0	0	0	0	1	0
Austria	5	0	0	0	0	0	5	0
Portugal	0	0	0	0	0	0	0	0
Greece	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	0
Eastern Europe	0	0	0	0	0	0	0	0

Note: Totals may not add due to rounding.

EXHIBIT A-19

European Revenues - Unisys Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	601	123.8	71.9	68.5	46.1	13.5	924.8	262.4
France	90	40	10	15	15	2	172	49
Germany	60	15	5	8	6	3	97	28
United Kingdom	135	30	15	12	10	5	207	60
Italy	45	7	5	4	2	1	64	21.2
Sweden	30	4	4	3	2	1	44	12.3
Denmark	10	2	2	1	1	0	16	4.6
Norway	4	1	1	1	1	0	8	2
Finland	15	2	1	1.5	1.2	0	20.7	5
Netherlands	50	8	7	6	3	1	75	21
Belgium/ Luxemburg	30	3	3	3	1	0	40	11.2
Spain	50	5	9	5	2	0.5	71.5	20
Switzerland	65	5	9	7	1	0	87	24.1
Austria	10	1	0.5	1	0.3	0	12.8	3.3
Portugal	2	0.5	0.2	0.3	0.1	0	3.1	0.5
Greece	1	0.3	0.1	0.3	0	0	1.7	0
Ireland	2	0	0.1	0.2	0	0	2.3	0
Eastern Europe	2	0	0	0.2	0.5	0	2.7	0.2

Note: Totals may not add due to rounding.

EXHIBIT A-20

European Revenues - Wang Customer Services, 1991 (\$ Millions)

COUNTRY	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Customer Service Vendor Revenues	236	32	45	32	28	0	373	0
France	61	9	12	7	7	0	95	0
Germany	36	5	7	3	2	0	53	0
United Kingdom	68	11	12	12	11	0	114	0
Italy	17	2	3	2	1	0	25	0
Sweden	10	2	3	1	1	0	16	0
Denmark	4	1	1	1	1	0	7	0
Norway	4	0	1	1	0	0	6	0
Finland	1	0	0	0	0	0	2	0
Netherlands	10	1	1	2	2	0	16	0
Belgium/ Luxemburg	13	1	2	1	1	0	18	0
Spain	7	1	2	2	1	0	12	0
Switzerland	3	0	1	1	0	0	4	0
Austria	1	0	1	0	0	0	3	0
Portugal	1	0	0	0	0	0	1	0
Greece	0	0	0	0	0	0	0	0
Ireland	1	0	0	0	0	0	1	0
Eastern Europe	0	0	0	0	0	0	0	0

Note: Totals may not add due to rounding.

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B Market Forecast Reconciliation

In 1990 and previous years INPUT's forecast for the customer services market in Europe (Western Europe) focused on user expenditure with customer services vendors. These vendors were defined as:

- Equipment vendors
- Independent Maintenance Organisations (IMOs)
- Dealers and Distributors.

Further, previous market forecasts focused specifically on user expenditure with the customer services organisations of customer services vendors. Other parts of the vendors' organisations providing customer services were excluded.

In 1991 market definitions were changed to more accurately focus on the total customer services market and provide a forecast for total user expenditure for customer services. Therefore, all vendors and organisations providing the services defined within the Customer Services sectors were included in INPUT's 1991 forecasts. These comprised:

- Customer Services vendors
- Independent Software and Services vendors
- Non-industry vendors
- All organisations within a vendor's company that accrue customer services revenues.

The main impact that the new market definition had on the 1991 forecasts was to substantially increase the size of the professional services sector as a consequence of including non-industry vendors.

The growth forecast for the professional services sector has in 1992 decreased substantially to about 11% CAGR, due to bringing this sector into line with the definitions used in INPUT's overall Information Services database.

In 1992 other improvements to the market sizing and forecasting were added principally at the request of the INPUT client base in order to align the market sectors more closely with those used internally within client companies. The new changes for 1992 are:

- Two new sectors have been added (see Chapter III for details)
 - Environmental services
 - Business continuity services.
- Eastern Europe has been added to the market and is currently being treated as a single group of countries.

The effect of these changes on the market sector reconciliations as shown in Exhibits B1 and B2 are:

- It is not possible to show a variance for the new service categories/countries
- Professional Services sector registers a very large (-91%) drop over the 1991 figures because the old sector has been split to form Environmental Services and the new Professional Services.

Variances in market sector sizes (see Exhibit B1) are otherwise small and all within the limits of the new conversion factors used (see Appendix D). There were also some small differences due to vendor estimates of revenues to be gained in 1991 differing from the revenues actually obtained. In addition an adjustment was made to increase the size of Education and Training by an amount which a major vendor had not reported to us, but this was compensated for by a real drop in sector revenues on the part of many vendors active in the sector.

Variances in country market sizes (see Exhibit B-2) are mostly in the negative direction, usually the result of differences between 1991 vendor estimates and what was reported in 1992.

The major changes highlighted by this reconciliation, however, are in the 5-year growth rates. In most countries the previous forecast CAGRs have been approximately halved due to the continuing poor economic climate in Europe and worldwide. Sector growth rates have been similarly marked down by between 16% and 72% to give an overall CAGR for the forward five years which is 55% of the equivalent CAGR given in the 1991 report.

EXHIBIT B-1

Customer Services Market Forecast Reconciliation Service Sectors

SERVICE SECTOR	1991 ESTIMATED SIZE OF 1991 MARKET (\$ MILLIONS)	1992 MEASURED SIZE OF 1991 MARKET (\$ MILLIONS)	VARIANCE IN 1991 SIZES (PERCENT)	CAGR FORECAST IN 1991 REPORT 1991-1996 (PERCENT)	CAGR FORECAST IN 1992 REPORT 1992-1997 (PERCENT)	VARIANCE IN CAGR (PERCENT)
Hardware Service	15,300	15,700	+3%	2.5	1.9	-24%
Environmental Services	NA	7,500	-	NA	5.4	-
Systems Software						
Support	1,800	1,730	-4%	13.5	8.1	-40%
Education and Training	1,300	1,350	+4%	13.0	3.7	-72%
Professional Services	8,700	740	-91%	13.0	10.9	-16%
Business Continuity Services	NA	300	-	NA	19.6	-
TOTAL	27,100	27,320	+0.8%	7.5	4.1	-45%

EXHIBIT B-2

Customer Services Market Forecast Reconciliation Country Markets

COUNTRY MARKET	1991 FORECAST OF 1991 MARKET	1992 MEASUREMENT OF 1991 MARKET	CAGR FORECAST IN 1991 REPORT 1991-1996 (PERCENT)	CAGR FORECAST IN 1992 REPORT 1992-1997 (PERCENT)
FRANCE	FF 24,700 M	FF 23,975 M	6.5	2.4
GERMANY	DM 8,250 M	DM 8,070 M	6.0	3.1
UNITED KINGDOM	£3,070 M	£2,945 M	7.0	3.5
ITALY	LIRA 3,950 B	LIRA 3,870 B	8.0	4.4
SWEDEN	SK 6,600 M	SK 6,100 M	8.5	4.6
DENMARK	DK 3,880 M	DK 3,445 M	7.0	2.9
NORWAY	NK 3,620 M	NK 3,580 M	9.0	3.9
FINLAND	FM 1,950 M	FM 1,890 M	5.5	3.6
NETHERLANDS	Dfl 2,740 M	Dfl 2,780 M	9.0	5.3
BELGIUM	BF 22,900 M	BF 22,530 M	8.0	4.7
SPAIN	PTA 123,000 M	PTA 116,500 M	10.0	7.0
SWITZERLAND	SF 1,620 M	SF 1,505 M	9.5	3.6
AUSTRIA	AS 5,750 M	AS 5,220 M	8.0	3.5
REST OF EUROPE	\$508 M	\$570 M	10.5	11.1

NOTE: Rounded Numbers

C Country Markets Database

EXHIBIT C-1

Customer Services Revenues, 1991 - France (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	530	41	0	43	28	1	642	281
Bull	445	10	30	37	10	4	536	188
Digital	210	37	18	21	10	2	298	38
Thomainfor	187	0	0	0	0	0	187	0
Unisys	90	40	10	15	15	2	172	49
AT&T/NCR	120	17	3	18	11	1	170	42
Siemens Nixdorf	130	6	0	7	3	1	147	20
Olivetti	120	3	1	1	3	1	129	0
Hewlett-Packard	92	4	3	8	5	2	114	0
Wang	61	9	12	7	7	0	95	0
Other System Vendors	496	36	50	30	27	1	639	18
IMOs (1)	215	4	4	3	12	3	240	0
VARs (2)	43	1	2	2	1	0	49	0
ISVs (3)	39	0	73	55	0	40	207	0
Non-Industry Vendors (4)	0	1,004	0	0	0	0	1,004	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	2,776	1,211	206	246	132	57	4,628	635

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-2

Customer Services Market Forecast, 1992-1997 France

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	2,776	1	2,799	2,830	2,860	2,890	2,920	2,960	1
Environmental Services	1,211	5	1,272	1,340	1,410	1,480	1,550	1,630	5
Systems Software Support	206	3	212	220	230	240	250	260	4
Education and Training	246	-6	232	230	230	240	250	280	4
Other Professional Services	132	13	149	170	190	210	230	250	11
Business Continuity Services	57	16	66	80	90	110	130	150	18
TOTAL CUSTOMER SERVICES (ROUNDED)	4,628	2	4,730	4,870	5,010	5,170	5,330	5,530	3
Annual Growth (Percent)			2	3	3	3	3	4	
ALL OTHER SERVICES	635	6	676	720	780	850	940	1,050	9

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-3

Customer Services Revenues, 1991 - Germany (\$Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTINTY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Siemens Nixdorf	719.7	48.0	0.0	44.7	9.9	5.3	827.6	100.0
IBM	634.9	59.9	0.0	59.9	34.2	1.3	790.1	344.7
Digital	284.9	53.9	25.0	32.9	13.2	3.3	413.2	52.0
AT&T/NCR	134.9	19.1	3.9	19.7	11.8	2.0	191.4	46.7
PrimeService	75.0	13.2	11.8	9.9	5.9	0.7	116.4	0.0
Hewlett-Packard	92.8	5.3	3.3	7.9	5.3	1.3	115.8	0.0
Memorex	97.4	0.0	0.0	0.0	0.0	0.0	97.4	0.0
Unisys	59.9	15.1	5.3	7.9	5.9	3.3	97.4	28.3
Bull	73.7	5.9	5.9	3.9	5.3	1.3	96.1	32.2
Olivetti	82.9	2.0	3.3	0.7	5.3	1.3	95.4	0.0
Other System Vendors	559.2	32.9	65.8	32.9	0.0	3.3	694.1	0.0
IMOs (1)	134.9	0.0	6.6	6.6	0.0	1.3	149.3	0.0
VARs (2)	105.3	6.6	32.9	3.3	0.0	0.0	148.0	0.0
ISVs (3)	46.1	0.0	184.2	52.6	0.0	42.8	325.7	0.0
Non-Industry Vendors (4)	0.0	1,151.3	0.0	0.0	0.0	0.0	1,151.3	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL MARKET	3,101.3	1,413.2	348.0	282.9	96.7	67.1	5,309.2	603.9

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-4

Customer Services Market Forecast, 1992-1997 Germany

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	3,101	1	3,125	3,150	3,180	3,210	3,260	3,330	1
Environmental Services	1,413	7	1,513	1,600	1,680	1,750	1,800	1,890	5
Systems Software Support	348	8	375	400	430	460	490	520	7
Education and Training	283	0	283	286	292	301	313	329	3
Other Professional Services	97	9	105	115	125	136	148	161	9
Business Continuity Services	67	8	72	80	89	101	116	136	13
TOTAL CUSTOMER SERVICES (ROUNDED)	5,309	3	5,474	5,630	5,800	5,960	6,130	6,370	3
Annual Growth (Percent)			3	3	3	3	3	4	
ALL OTHER SERVICES	604	9	658	710	760	810	850	890	6

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-5

Customer Services Revenues, 1991 - United Kingdom (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	444	81	0	38	45	2	609	263
Digital	321	66	109	27	17	4	544	70
ICL	430	51	30	15	6	0	532	233
Hewlett-Packard	152	8	28	11	9	4	212	0
Unisys	135	30	15	12	9	6	208	60
PrimeService	85	21	39	21	8	0	173	0
Granada	152	19	0	0	0	0	171	0
AT&T/NCR	111	17	4	19	9	4	164	45
Olivetti	126	0	2	11	4	2	145	0
Bull	92	6	11	8	4	2	122	39
Other System Vendors	459	43	81	34	34	6	656	6
IMOs (1)	430	6	4	4	4	6	453	0
VARs (2)	47	2	6	4	2	0	60	0
ISVs (3)	41	0	150	28	0	47	267	0
Non-Industry Vendors (4)	0	1,222	0	0	0	0	1,222	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	3,026	1,570	479	231	150	81	5,538	716

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-6

Customer Services Market Forecast, 1992-1997 United Kingdom

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	3,026	-1	3,008	3,040	3,080	3,120	3,170	3,230	1
Environmental Services	1,570	2	1,598	1,610	1,640	1,690	1,760	1,850	3
Systems Software Support	479	8	517	570	620	670	720	780	9
Education and Training	231	-15	195	180	180	180	190	200	0
Other Professional Services	150	13	169	190	210	230	260	300	12
Business Continuity Services	81	28	103	130	160	200	240	280	22
TOTAL CUSTOMER SERVICES (ROUNDED)	5,538	1	5,590	5,720	5,890	6,090	6,340	6,640	4
Annual Growth (Percent)			1	2	3	3	4	5	
ALL OTHER SERVICES	697	8	752	820	900	990	1,090	1,250	11

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-7

Customer Services Revenues, 1991 - Italy (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	461.7	40.0	0.0	38.3	25.2	0.0	565.2	230.4
Olivetti	354.8	40.0	18.3	2.6	10.4	0.9	427.0	250.4
Digital	113.0	34.8	37.4	14.8	8.7	1.7	210.4	185.2
Bull	125.2	8.7	10.4	5.2	6.1	0.9	156.5	52.2
AT&T/NCR	54.8	7.8	1.7	7.8	5.2	0.0	77.4	18.3
Hewlett-Packard	61.7	2.6	10.4	4.3	2.6	0.0	81.7	0.0
Siemens Nixdorf	60.0	4.3	0.0	5.2	1.7	0.9	72.2	10.4
Unisys	45.2	7.0	5.2	4.3	1.7	0.9	64.3	20.9
Memorex	45.2	0.0	0.0	0.0	0.0	0.0	45.2	0.0
PrimeService	25.2	6.1	13.9	4.3	2.6	0.0	52.2	0.0
Other System Vendors	478.3	48.7	39.1	41.7	15.7	15.7	639.1	75.7
IMOs (1)	143.3	4.3	1.7	0.9	1.7	0.0	152.2	0.0
VARs (2)	56.5	4.3	0.9	1.7	1.7	0.0	65.2	0.0
ISVs (3)	5.2	0.0	43.5	12.2	0.0	0.0	60.9	0.0
Non-Industry Vendors (4)	0.0	695.7	0.0	0.0	0.0	0.0	695.7	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL MARKET	2,030.4	904.3	182.6	143.5	83.5	20.9	3,365.2	843.5

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-8

Customer Services Market Forecast, 1992-1997 Italy

SERVICE SECTOR	Market Size (\$ Millions)								
	1991	ANNUAL GROWTH % 1991- 1992	1992	1993	1994	1995	1996	1997	CAGR % 1992- 1997
Hardware Service	2,030	1	2,048	2,079	2,110	2,142	2,174	2,207	2
Environmental Services	904	7	968	1,036	1,109	1,187	1,270	1,358	7
Systems Software Support	183	10	200	220	243	270	297	326	10
Education and Training	143	-3	139	141	145	154	170	187	6
Other Professional Services	83	15	96	108	121	134	149	165	12
Business Continuity Services	21	12	23	27	31	36	43	53	18
TOTAL CUSTOMER SERVICES (ROUNDED)	3,365	3	3,474	3,610	3,760	3,920	4,100	4,300	4
Annual Growth (Percent)			3	4	4	4	5	5	
ALL OTHER SERVICES	843	8	913	990	1,070	1,160	1,250	1,360	8

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-9

Customer Services Revenues, 1991 - Sweden (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTINTY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	125.1	6.0	7.0	11.7	5.1	0.2	155.1	64.1
Digital	90.1	19.0	11.9	9.7	5.1	2.0	137.7	16.8
ICL	100.0	5.1	4.0	3.1	4.0	0.0	116.1	11.9
Unisys	30.0	4.0	1.1	3.1	2.0	1.1	41.2	12.3
AT&T/NCR	29.1	4.0	0.0	4.0	3.1	0.0	40.1	9.9
Siemens Nixdorf	20.0	3.1	2.5	2.0	1.1	0.0	28.7	3.8
Wang	9.9	1.4	4.7	1.1	1.1	0.0	18.2	0.0
Norsk Data	12.3	0.5	4.7	2.7	2.2	0.0	22.4	0.0
Bull	13.0	1.1	2.0	1.1	0.0	0.0	17.1	6.0
Hewlett-Packard	14.1	0.5	0.4	0.5	0.5	0.0	16.1	0.0
PrimeService	9.0	2.0	2.0	2.0	1.1	0.0	16.1	
Other System Vendors	74.4	9.9	18.6	8.1	13.7	1.8	126.5	14.3
IMOs (1)	52.3	0.5	0.5	0.5	0.7	0.9	55.6	0.0
VARs (2)	21.7	0.4	0.5	0.5	0.4	0.0	23.5	0.0
ISVs (3)	4.5	0.4	11.6	7.6	0.4	5.4	29.8	7.6
Non-Industry Vendors (4)	0.0	261.7	0.0	0.0	0.0	0.0	261.7	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL MARKET	605.4	319.5	71.5	57.8	40.3	11.4	1,105.8	139.0

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-10

Customer Services Market Forecast, 1992-1997 Sweden

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	605	6	640	670	690	700	710	720	2
Environmental Services	319	5	336	350	370	390	410	430	5
Systems Software Support	67	12	75	80	90	100	110	120	10
Education and Training	58	0	58	63	68	73	77	81	7
Other Professional Services	40	17	47	53	59	66	73	78	11
Business Continuity Services	11	8	12	14	16	18	22	26	16
TOTAL CUSTOMER SERVICES (ROUNDED)	1,101	6	1,168	1,230	1,290	1,350	1,400	1,460	5
Annual Growth (Percent)			6	5	5	5	4	4	
ALL OTHER SERVICES	139	8	150	160	170	180	190	200	6

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-11

Customer Services Revenues, 1991 - Denmark (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	90.0	8.0	0.0	7.3	5.1	0.0	110.4	81.0
ICL	37.0	2.0	0.0	1.0	0.0	0.0	40.1	3.1
Olivetti	35.0	0.2	0.5	0.3	0.3	0.0	36.3	0.0
Digital	22.1	5.9	2.0	3.1	2.0	0.0	35.1	4.6
AT&T/NCR	13.9	2.0	1.0	2.0	1.0	0.0	20.0	4.9
Siemens Nixdorf	15.1	1.0	0.0	2.0	1.0	0.0	19.2	3.1
PrimeService	13.9	2.0	1.0	1.0	1.0	0.0	19.0	0.0
Unisys	10.0	2.0	2.0	1.0	1.0	0.0	16.1	4.6
Bull	7.0	2.0	1.0	1.0	2.0	0.0	13.1	4.1
Hewlett-Packard	10.0	0.2	0.2	0.5	0.3	0.0	11.2	0.0
Other System Vendors	0.0 50.9	0.0 3.1	0.0 16.1	0.0 6.8	0.0 2.5	0.0 0.0	0.0 79.5	0.0 4.2
IMOs (1)	8.0	2.2	2.5	0.3	2.0	0.3	15.4	0.0
VARs (2)	2.0	0.3	0.3	0.3	0.2	0.2	3.4	1.7
ISVs (3)	3.4	0.0	6.8	1.7	0.0	1.2	13.1	0.0
Non-Industry Vendors (4)	0.0 0.0	152.8 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	152.8 0.0	0.0 0.0
TOTAL MARKET	318.3	183.9	33.6	28.5	18.7	1.7	584.7	111.2

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-12

Customer Services Market Forecast, 1992-1997 Denmark

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	318	-1	314	309	304	299	295	290	-2
Environmental Services	184	2	187	196	208	223	241	255	6
Systems Software Support	34	11	37	41	45	49	53	57	9
Education and Training	29	1	29	29	29	30	32	35	4
Other Professional Services	19	18	22	25	29	33	37	41	13
Business Continuity Services	2	20	2	2	3	4	4	5	21
TOTAL CUSTOMER SERVICES (ROUNDED)	585	1	591	600	620	640	660	680	3
Annual Growth (Percent)			1	1	3	3	3	3	
ALL OTHER SERVICES	111	10	122	130	140	150	160	170	7

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-13

Customer Services Revenues, 1991 - Norway (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTINITY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Norsk Data	48.5	4.7	20.1	10.0	5.0	0.5	88.8	0.0
IBM	55.2	5.0	0.0	5.9	3.0	0.3	69.4	30.1
Digital	22.1	3.0	2.0	2.5	1.0	0.0	30.6	4.0
Olivetti	24.1	1.0	1.0	0.2	0.2	0.0	26.4	0.0
ICL	18.1	3.0	1.7	2.5	0.0	0.0	25.3	0.0
Siemens Nixdorf	18.1	1.0	0.0	2.0	0.5	0.0	21.6	2.0
AT&T/NCR	13.0	2.0	1.0	2.0	2.2	0.0	20.2	4.0
Bull	11.0	1.0	2.0	1.0	2.0	0.0	17.1	0.0
Wang	4.2	0.3	0.7	0.5	0.3	0.0	6.0	0.0
PrimeService	5.0	1.0	1.0	1.0	0.5	0.0	8.5	0.0
Other System Vendors	67.9	7.4	11.2	14.5	4.8	0.3	106.2	3.3
IMOs (1)	11.7	1.7	0.3	0.3	0.8	0.2	15.1	0.0
VARs (2)	2.2	0.5	0.0	0.2	0.3	0.2	3.3	0.0
ISVs (3)	3.3	0.2	6.7	2.5	0.5	4.8	18.1	0.0
Non-Industry Vendors (4)	0.0	142.1	0.0	0.0	0.0	0.0	142.1	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL MARKET	304.3	173.9	47.7	45.2	21.2	6.4	598.7	43.5

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-14

Customer Services Market Forecast, 1992-1997 Norway

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	304	0	305	306	308	311	315	321	1
Environmental Services	174	7	186	97	209	219	230	244	6
Systems Software Support	48	5	50	53	57	62	67	73	8
Education and Training	45	7	48	51	52	52	55	58	4
Other Professional Services	21	10	23	26	28	30	32	34	7
Business Continuity Services	6	18	8	9	11	14	17	20	22
TOTAL CUSTOMER SERVICES (ROUNDED)	599	4	620	640	670	690	720	750	4
Annual Growth (Percent)			4	3	5	3	4	4	
ALL OTHER SERVICES	43	8	47	51	55	59	63	67	7

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-15

Customer Services Revenues, 1991 - Finland (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTINITY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
ICL	94.9	5.1	10.1	1.9	5.1	0.2	117.3	4.1
Digital	33.0	8.0	4.1	4.1	1.9	1.0	52.0	6.5
IBM	40.0	4.1	0.0	3.4	1.9	0.2	49.6	21.0
Unisys	14.9	1.9	1.0	1.4	1.2	0.0	20.5	5.1
Siemens Nixdorf	15.9	1.0	1.2	0.5	0.2	0.0	18.8	1.0
AT&T/NCR	6.0	1.0	0.0	1.0	1.0	0.0	8.9	1.9
Olivetti	7.0	0.0	0.0	0.2	0.0	0.0	7.2	0.0
Rank Xerox	5.1	0.0	0.0	0.2	0.2	0.0	5.5	0.0
PrimeService	2.4	1.0	1.0	0.5	0.2	0.0	5.1	0.0
Memorex	2.9	0.0	0.0	0.0	0.0	0.0	2.9	0.0
Other System Vendors	15.2	3.1	6.5	8.0	2.9	0.5	36.1	0.0
IMOs (1)	8.9	0.2	0.2	0.0	0.2	0.2	9.9	0.0
VARs (2)	1.9	0.2	0.0	0.2	0.0	0.0	2.4	0.0
ISVs (3)	2.4	0.0	4.8	1.4	0.2	5.5	14.5	0.0
Non-Industry Vendors (4)	0.0	104.6	0.0	0.0	0.0	0.0	104.6	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL MARKET	251	130	29	23	15	8	455	40

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-16

Customer Services Market Forecast, 1992-1997 Finland

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	251	1	253	256	259	262	265	268	1
Environmental Services	130	6	137	144	151	159	167	175	5
Systems Software Support	29	8	31	34	37	40	43	47	8
Education and Training	23	-1	23	23	23	23	24	25	2
Other Professional Services	15	11	17	19	21	23	25	28	11
Business Continuity Services	8	12	9	10	11	13	15	18	16
TOTAL CUSTOMER SERVICES (ROUNDED)	455	3	470	490	500	520	540	560	4
Annual Growth (Percent)			3	4	2	4	4	4	
ALL OTHER SERVICES	40	10	43	50	50	50	50	50	3

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-17

Customer Services Revenues, 1991 - Netherlands (\$Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Digital	152.0	28.1	12.3	15.2	5.8	1.8	215.2	27.5
Getronics	84.2	32.2	35.1	2.9	45.0	9.9	209.4	19.9
IBM	164.9	15.2	0.0	15.8	8.8	1.2	205.8	91.2
Unisys	50.3	8.2	7.0	5.8	2.9	1.2	75.4	21.1
AT&T/NCR	38.0	5.3	1.2	5.8	4.1	0.0	54.4	11.1
Bull	29.8	2.9	4.1	2.9	1.8	0.0	41.5	14.0
Hewlett-Packard	29.8	1.8	1.2	2.9	1.2	1.8	38.6	0.0
Siemens Nixdorf	32.2	1.8	0.0	1.8	0.0	0.6	36.3	5.8
Olivetti	28.1	0.6	0.6	0.6	0.6	0.0	30.4	0.0
ICL	21.1	1.8	2.9	1.2	0.0	0.0	26.9	7.0
Other System Vendors	175.4	14.0	19.9	5.8	2.3	1.2	218.7	7.0
IMOs (1)	64.3	0.6	2.9	1.2	0.0	0.0	69.0	0.0
VARs (2)	11.7	0.6	0.6	0.6	0.6	0.0	14.0	0.0
ISVs (3)	7.0	1.2	11.7	13.5	0.0	2.9	36.3	0.0
Non-Industry Vendors (4)	0.0	353.8	0.0	0.0	0.0	0.0	353.8	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL MARKET	888.9	467.8	99.4	76.0	73.1	20.5	1,625.7	204.7

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-18

Customer Services Market Forecast, 1992-1997 Netherlands

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	889	3	918	946	974	1,003	1,033	1,064	3
Environmental Services	468	3	482	502	527	567	624	703	8
Systems Software Support	99	9	108	116	123	129	135	141	5
Education and Training	76	0	76	76	77	79	83	90	3
Other Professional Services	73	12	82	90	99	107	119	138	11
Business Continuity Services	20	14	23	27	31	37	45	56	19
TOTAL CUSTOMER SERVICES (ROUNDED)	1,626	4	1,690	1,760	1,830	1,920	2,040	2,190	5
Annual Growth (Percent)			4	4	4	5	6	7	
ALL OTHER SERVICES	205	7	219	234	249	265	285	310	7

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-19

Customer Services Revenues, 1991 - Belgium (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	80.0	7.0	0.0	6.6	5.0	0.0	98.6	45.0
Digital	55.2	9.0	9.8	4.0	2.0	0.0	80.0	10.0
Siemens Nixdorf	45.0	3.0	0.0	2.0	0.5	0.0	50.5	9.0
Unisys	30.0	3.0	3.0	3.0	1.0	0.0	40.0	11.2
Bull	29.0	3.0	3.0	2.0	1.0	0.0	38.0	12.0
Olivetti	32.0	0.3	2.0	1.5	2.0	0.0	37.8	0.0
Hewlett-Packard	22.4	1.0	2.2	2.0	1.0	2.0	30.6	0.0
Memorex	22.1	0.0	0.0	0.0	0.0	0.0	22.1	0.0
AT&T/NCR	15.0	2.0	1.0	2.0	1.0	0.0	21.0	4.0
Wang	12.6	1.2	2.0	1.4	1.0	0.0	18.2	0.0
Other System Vendors	30.1	4.9	4.5	5.7	3.2	0.5	48.9	1.6
IMOs (1)	54.4	0.6	0.6	0.5	0.0	0.7	56.8	0.0
VARs (2)	9.6	0.0	0.3	0.2	0.2	0.0	10.3	0.0
ISVs (3)	2.4	0.2	9.3	5.2	0.3	3.2	20.6	0.0
Non-Industry Vendors (4)	0.0	147.2	0.0	0.0	0.0	0.0	147.2	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL MARKET	439.9	182.3	37.7	36.1	18.2	6.4	720.7	92.8

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-20

Customer Services Market Forecast, 1992-1997 Belgium

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	440	5	461	479	496	511	526	542	3
Environmental Services	182	5	191	201	211	222	233	245	5
Systems Software Support	38	10	42	46	51	56	62	68	10
Education and Training	36	1	37	37	38	39	41	44	4
Other Professional Services	18	9	20	22	24	27	30	34	11
Business Continuity Services	6	5	7	7	8	9	11	14	16
TOTAL CUSTOMER SERVICES (ROUNDED)	721	5	757	790	830	860	900	950	5
Annual Growth (Percent)			5	4	5	4	5	6	
ALL OTHER SERVICES	93	10	102	110	120	130	140	150	8

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-21

Customer Services Revenues, 1991 - Spain (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTINTY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	145.0	18.0	0.0	13.3	7.0	0.0	183.3	80.0
Digital	72.8	12.0	14.2	4.5	3.0	0.0	106.5	13.0
AT&T/NCR	75.0	10.0	3.0	10.0	6.0	1.0	105.0	26.0
Siemens Nixdorf	65.0	4.0	0.0	6.0	2.0	0.0	77.0	10.0
Unisys	50.0	5.0	9.0	5.0	2.0	0.5	71.5	20.0
Hewlett-Packard	46.8	3.0	9.2	5.0	3.0	0.0	67.0	0.0
Olivetti	60.0	2.0	2.5	0.5	0.5	0.0	65.5	0.0
Bull	30.0	1.0	4.0	2.0	1.0	0.0	38.0	10.0
Eltec	35.3	0.0	0.0	0.0	0.0	0.0	35.3	0.0
PrimeService	15.0	3.0	2.5	3.0	1.5	0.0	25.0	0.0
Other System Vendors	46.8	2.7	5.1	4.7	1.0	0.1	60.5	1.0
IMOs (1)	83.7	0.5	0.4	0.5	0.5	0.1	85.7	0.0
VARs (2)	12.7	0.1	0.4	0.2	0.5	0.0	13.9	0.0
ISVs (3)	0.0	0.0	12.0	2.6	0.0	2.5	17.0	0.0
Non-Industry Vendors (4)	0.0	259.9	0.0	0.0	0.0	0.0	259.9	0.0
TOTAL MARKET	738	321	62	57	28	4	1,211	160

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-22

Customer Services Market Forecast, 1992-1997 Spain

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	738	6	782	830	870	910	950	980	5
Environmental Services	321	10	353	390	430	470	520	570	10
Systems Software Support	62	13	71	80	90	102	114	127	12
Education and Training	57	4	60	62	64	66	68	71	4
Other Professional Services	28	20	34	40	46	53	60	67	15
Business Continuity Services	4	13	5	5	6	8	10	12	21
TOTAL CUSTOMER SERVICES (ROUNDED)	1,211	8	1,305	1,410	1,510	1,610	1,720	1,830	7
Annual Growth (Percent)			8	8	7	7	7	6	
ALL OTHER SERVICES	160	13	181	210	250	300	350	400	17

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-23

Customer Services Revenues, 1991 - Switzerland (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTINTY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Digital	89	21	8	10	5	1	134	17
AT&T/NCR	95	12	3	15	8	1	133	31
IBM	90	6	0	6	4	1	107	46
Unisys	65	5	9	7	1	0	87	24
Siemens Nixdorf	48	4	0	3	1	0	56	9
Hewlett Packard	20	1	3	1	1	1	26	0
Bull	19	1	1	1	0	0	21	6
Olivetti	18	0	1	0	0	0	19	0
PrimeService	6	1	1	1	1	0	10	0
ICL	7	1	1	0	0	0	8	0
Memorex	8	0	0	0	0	0	8	0
Other System Vendors	81	9	19	15	15	1	139	15
IMOs (1)	16	1	1	0	1	1	20	0
VARs (2)	8	1	0	0	0	0	9	0
ISVs (3)	0	1	15	7	0	3	26	0
Non-Industry Vendors (4)	0	311	0	0	0	0	311	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	570	374	61	65	36	7	1,113	148

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-24

Customer Services Market Forecast, 1992-1997 Switzerland

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	570	1	578	580	590	600	610	630	2
Environmental Services	374	4	387	400	420	440	460	480	4
Systems Software Support	61	9	66	70	80	90	100	110	11
Education and Training	65	-3	63	63	65	67	70	74	3
Other Professional Services	36	6	38	40	42	44	46	49	5
Business Continuity Services	7	20	9	10	12	14	17	20	18
TOTAL CUSTOMER SERVICES (ROUNDED)	1,113	2	1,141	1,160	1,210	1,260	1,300	1,360	4
Annual Growth (Percent)			2	2	4	4	3	5	
ALL OTHER SERVICES	148	6	157	170	180	190	200	220	7

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-25

Customer Services Revenues, 1991 - Austria (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Digital	71.5	3.6	12.7	4.0	4.2	0.1	96.0	6.4
IBM	69.4	5.0	0.0	3.6	3.0	0.2	81.2	28.0
Siemens Nixdorf	54.4	2.0	0.0	3.5	1.0	0.0	60.9	6.0
Unisys	10.0	1.0	1.4	1.0	0.3	0.1	13.8	3.3
Hewlett-Packard	10.0	0.3	1.3	1.0	0.5	0.1	13.2	0.0
PrimeService	7.8	1.5	2.4	0.5	0.2	0.0	12.4	0.0
AT&T/NCR	7.0	1.0	1.0	2.0	0.0	1.0	12.0	2.0
Rank Xerox	5.9	0.1	0.0	0.0	0.0	0.0	6.0	0.0
Thomainfor	5.0	0.1	0.0	0.0	0.0	0.0	5.1	0.0
Memorex	4.8	0.0	0.0	0.0	0.0	0.0	4.8	0.0
Other System Vendors	24.5	4.7	8.2	4.7	0.0	0.1	42.1	1.3
IMOs (1)	6.2	3.3	0.5	0.2	0.0	0.0	10.1	0.0
VARs (2)	2.8	0.5	0.2	0.1	0.0	0.0	3.6	0.0
ISVs (3)	0.7	0.0	7.1	3.0	0.2	1.7	12.7	0.0
Non-Industry Vendors (4)	0.0	116.7	0.0	0.0	0.0	0.0	116.7	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL MARKET	279.9	139.7	34.8	23.5	9.4	3.3	490.6	47.0

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-26

Customer Services Market Forecast, 1992-1997 Austria

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	280	3	287	290	300	310	310	310	2
Environmental Services	140	4	145	150	160	170	180	190	6
Systems Software Support	35	5	37	39	42	45	49	53	8
Education and Training	24	-6	22	22	22	23	24	25	2
Other Professional Services	9	10	10	11	12	13	14	15	8
Business Continuity Services	3	14	4	4	5	6	8	9	20
TOTAL CUSTOMER SERVICES (ROUNDED)	490	3	505	520	540	570	585	600	4
Annual Growth (Percent)			3	3	4	6	2	3	
ALL OTHER SERVICES	47	14	54	60	60	60	60	60	2

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-27

Customer Services Revenues, 1991 - Greece (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	15.0	1.0	0.0	1.7	1.0	0.0	18.7	7.0
Digital	10.0	0.3	1.5	1.3	1.0	0.0	14.1	1.8
Siemens Nixdorf	5.0	1.0	0.0	0.2	0.0	0.0	6.2	1.0
AT&T/NCR	3.0	0.0	0.0	1.0	0.0	0.0	4.0	1.0
Bull	2.0	1.0	0.0	0.0	0.0	0.0	3.0	1.0
Hewlett-Packard	2.0	0.0	0.1	0.1	0.1	0.0	2.3	0.0
Olivetti	2.0	0.1	0.1	0.1	0.0	0.0	2.3	0.0
PrimeService	1.0	0.2	0.3	0.4	0.1	0.0	2.0	0.0
Unisys	1.0	0.3	0.1	0.3	0.0	0.0	1.7	0.0
Sun								
Microsystems	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Other System Vendors	1.1	0.0	0.1	0.3	0.0	0.0	1.6	0.0
IMOs (1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VARs (2)	4.6	0.0	0.0	0.0	0.0	0.0	4.6	0.0
ISVs (3)	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Non-Industry Vendors (4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL MARKET	47.5	3.9	2.2	5.5	2.2	0.0	61.4	11.8

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-28

Customer Services Market Forecast, 1992-1997 Greece

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	47	5	50	53	56	59	62	65	5
Environmental Services	4	5	4	4	5	5	5	5	5
Systems Software Support	2	16	3	3	3	4	5	5	15
Education and Training	5	8	6	6	7	7	8	8	7
Other Professional Services	2	19	3	3	4	4	5	6	18
Business Continuity Services	0	-	1	1	2	3	4	5	53
TOTAL CUSTOMER SERVICES (ROUNDED)	61	7	66	71	77	82	88	95	8
Annual Growth (Percent)			7	8	8	6	7	8	
ALL OTHER SERVICES	12	15	14	20	30	40	50	70	39

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-29

Customer Services Revenues, 1991 - Ireland (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTINTY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
Digital	15.8	1.8	1.8	1.8	1.8	0.0	22.8	3.5
IBM	15.8	1.8	0.0	1.8	1.8	0.0	21.1	5.3
AT&T/NCR	3.5	0.0	0.4	1.4	0.0	0.0	5.3	1.8
Siemens/Nixdorf	3.5	1.8	0.2	0.2	0.0	0.0	5.6	0.0
Bull	3.5	0.0	0.2	0.4	0.0	0.0	4.0	1.8
Hewlett-Packard	1.8	0.0	0.4	0.4	0.0	0.4	2.8	0.0
ICL	1.8	0.0	0.4	0.4	0.0	0.0	2.5	0.0
Memorex	1.8	0.0	0.0	0.0	0.0	0.0	1.8	0.0
Olivetti	1.8	0.0	0.5	0.2	0.0	0.0	2.5	0.0
PrimeService	1.8	0.2	0.4	0.2	0.0	0.0	2.5	0.0
Rank Xerox	1.8	0.0	0.4	0.0	0.0	0.0	2.1	0.0
Sun								
Microsystems	1.8	0.2	0.4	0.2	0.0	0.0	2.5	0.0
Other System Vendors	5.3	1.4	1.8	1.9	0.0	0.0	10.4	0.0
IMOs (1)	8.8	0.0	0.5	0.0	0.0	0.0	9.3	0.0
VARs (2)	0.9	0.0	0.2	0.0	0.0	0.0	1.1	0.0
ISVs (3)	0.9	0.0	8.8	0.4	0.0	4.4	14.5	0.0
Non-Industry Vendors (4)	0.0	26.3	0.0	0.0	0.0	0.0	26.3	0.0
TOTAL MARKET	70.2	33.3	16.0	9.0	3.5	4.7	136.8	12.3

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-30

Customer Services Market Forecast, 1992-1997 Ireland

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	70	5	74	77	79	81	83	84	3
Environmental Services	33	5	35	37	38	39	40	42	4
Systems Software Support	16	10	18	19	21	23	25	28	10
Education and Training	9	8	10	10	11	11	12	12	4
Other Professional Services	4	10	4	4	5	5	6	6	10
Business Continuity Services	5	19	6	7	8	10	12	15	21
TOTAL CUSTOMER SERVICES (ROUNDED)	137	6	150	154	162	169	178	187	5
Annual Growth (Percent)			6	6	5	4	5	5	
ALL OTHER SERVICES	12	11	14	15	17	19	21	23	11

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-31

Customer Services Revenues, 1991 - Portugal (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	20.0	2.0	0.0	1.7	1.0	0.0	24.7	11.0
Digital	16.0	3.0	1.7	1.0	1.0	0.0	22.7	2.8
Siemens Nixdorf	15.0	1.0	0.0	0.3	0.0	0.0	16.3	2.0
AT&T/NCR	5.0	1.0	0.0	1.0	1.0	0.0	8.0	1.0
Olivetti	5.0	0.1	0.2	0.1	0.0	0.0	5.4	0.0
Unisys	2.0	0.5	0.2	0.3	0.1	0.0	3.1	0.5
Bull	2.0	1.0	0.0	0.0	0.0	0.0	3.0	1.0
Hewlett-Packard	1.8	0.0	0.3	0.2	0.1	0.0	2.4	0.0
Prime-Service	1.0	0.2	0.1	0.3	0.1	0.0	1.7	0.0
Rank Xerox	1.2	0.0	0.0	0.0	0.0	0.0	1.2	0.0
Other System Vendors	2.5	0.8	0.7	0.9	1.0	0.0	5.9	0.2
IMOS (1)	4.4	0.0	0.3	0.1	0.1	0.0	5.0	0.0
VARs (2)	1.9	0.0	0.1	0.0	0.1	0.0	2.1	0.0
ISVs (3)	0.0	0.0	8.2	0.0	0.0	3.0	11.1	0.0
Non-Industry Vendors (4)	0.0	18.5	0.0	0.0	0.0	0.0	18.5	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL MARKET	77.8	28.2	11.9	5.9	4.4	3.0	131.2	18.5

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-32

Customer Services Market Forecast, 1992-1997 Portugal

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	78	8	84	90	100	110	120	130	9
Environmental Services	28	11	31	34	37	39	42	44	7
Systems Software Support	12	16	14	16	18	20	22	24	12
Education and Training	6	12	7	7	8	9	10	10	9
Other Professional Services	4	17	5	6	7	8	8	9	12
Business Continuity Services	3	25	4	5	6	7	9	10	22
TOTAL CUSTOMER SERVICES (ROUNDED)	130	10	145	160	180	190	210	230	10
Annual Growth (Percent)			10	11	11	8	11	10	
ALL OTHER SERVICES	19	20	22	27	31	36	41	47	16

SOURCE: INPUT

Note: Totals may not add due to rounding.

EXHIBIT C-33

Customer Services Revenues, 1991 - Eastern Europe (\$ Millions)

VENDOR	HARDWARE SERVICE	ENVIRON- MENTAL SERVICES	SYSTEM SOFTWARE SUPPORT	EDUCATION AND TRAINING	OTHER PROF'AL SERVICES	BUSINESS CONTIN'TY SERVICES	TOTAL CUSTOMER SERVICES	ALL OTHER SERVICES
IBM	30	1	0	1	2	0	34	10
Digital	10	8	1	2	2	0	23	3
Siemens Nixdorf	20	1	0	1	0	0	22	1
AT&T/NCR	4	1	1	1	0	0	7	2
ICL	4	1	1	1	0	0	7	1
PrimeService	2	1	0	0	1	0	4	0
Hewlett-Packard	1	1	1	0	0	0	3	0
Unisys	2	0	0	0	1	0	3	0
Bull	2	0	0	0	0	0	2	0
Olivetti	1	0	0	0	1	0	2	0
Other System Vendors	32	3	7	3	2	0	47	0
IMOs (1)	0	0	0	0	0	0	0	0
VARs (2)	52	4	2	1	1	0	60	0
ISVs (3)	0	0	0	2	0	0	2	0
Non-Industry Vendors (4)	0	24	0	0	0	0	24	0
	0	0	0	0	0	0	0	0
TOTAL MARKET	160	45	13	12	10	0	240	17

SOURCE: INPUT

NOTE: (1) IMOs = Independent Maintenance Organisations

(2) VARs = Dealers/Distributors/Value-Added Resellers or Remarketers

(3) ISVs = Independent Software/Services Vendors

(4) Non-Industry Vendors are from the Construction and Building Services sectors

Totals may not add due to rounding.

EXHIBIT C-34

Customer Services Market Forecast, 1992-1997 Eastern Europe

	Market Size (\$ Millions)								
SERVICE SECTOR	1991	ANNUAL GROWTH % 1991-1992	1992	1993	1994	1995	1996	1997	CAGR % 1992-1997
Hardware Service	160	3	164	172	185	204	235	294	12
Environmental Services	45	2	46	48	53	63	80	108	19
Systems Software Support	13	12	15	16	18	20	22	25	12
Education and Training	12	17	14	16	19	22	26	30	16
Other Professional Services	10	20	12	14	17	20	24	29	19
Business Continuity Services	0	-	1	2	4	10	20	36	105
TOTAL CUSTOMER SERVICES (ROUNDED)	240	5	252	270	300	340	410	520	16
Annual Growth (Percent)			5	7	11	13	21	27	
ALL OTHER SERVICES	240	18	284	340	410	510	640	800	23

SOURCE: INPUT

Note: Totals may not add due to rounding.

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D Economic Assumptions

There follow some notes on the methodology INPUT uses in sizing markets, in making forecasts and judging of how reasonable they are.

INPUT reports are based principally on three strands of research activity conducted throughout the year:

- A vendor research programme with more than 300 interviews with prominent software and services vendors across Europe. This research assesses their attributable revenues in each country by delivery made and, where possible by industry sector. INPUT consultants use their own judgement in many cases to categorise revenues into sub-sectors. In particular INPUT excludes revenues considered captive, such as those from a vendor's parent company.
- Several hundred vendor and user interviews across all European market sectors to determine trends and opinions. These interviews are part of the research that INPUT carries out in specific sectors of the software and services market.
- Additionally INPUT maintains an extensive library and database of information relating to the software and services industry. This covers for example INPUT's customer services programme data: results of INPUT's research into the hardware maintenance market which includes its diversification into the software and services market.

All the forecasts from these activities are produced in local currency for each country, then consolidated with common economic and exchange rate data to produce a top-level forecast. This is done for software and services in each country and in Europe as a whole. At each stage it is examined for reasonableness and consistency and if necessary revisited. For example we satisfactorily tested the question: Will predicted user

budgets for information systems support the predicted growth rates in software and services?

The forecasts also benefit from assignments for and feedback from INPUT clients, who include over 100 of the leading vendors of software and services around the world.

In order to consolidate INPUT's forecasts and vendor data into a consistent set of European analyses each year, it is essential to use a standard set of economic factors. The following pages show the inflation and exchange rates in use for 1992 studies.

A

European Exchange Rates

The following table, Exhibit D-1, shows the standard exchange rates used throughout the 1992 programme to consolidate country market data for overall European forecasts and vendor market shares.

EXHIBIT D-1

U.S. Dollar and ECU Exchange Rates 1992			
Country	Currency	U.S. Dollar	ECU
France	FF	5.18	6.96
Germany	DM	1.52	2.04
United Kingdom	£	0.532	0.715
Italy	Lira	1,150	1,544
Sweden	Sek	5.54	7.45
Denmark	DK	5.89	7.93
Norway	NK	5.98	8.03
Finland	FM	4.15	5.51
Netherlands	Dfl	1.71	2.29
Belgium	BF	31.26	41.94
Switzerland	SF	1.35	1.81
Austria	Sch	10.63	14.33
Spain	Ptas	96.2	129.6
Portugal	Esc	134.9	181.0
Greece	Dra	174.0	234.8
Ireland	IR£	0.57	0.765
	\$	1	1.34

Source: *Financial Times* 30 December 1991

Exhibit D-2 shows the standard exchange rates used throughout the 1991 programme to consolidate country market data for overall European forecasts and vendor market shares.

EXHIBIT D-2

U.S. Dollar and ECU Exchange Rates 1991

Country	Currency	U.S. Dollar Exchange Rate	ECU Exchange Rate
France	FF	5.65	7.74
Germany	DM	1.68	2.30
United Kingdom	£	0.515	0.704
Italy	Lira	1,233.0	1,689.0
Sweden	Sek	5.61	7.69
Denmark	DK	6.39	8.75
Norway	NK	6.49	8.89
Finland	FM	3.96	5.43
Netherlands	Dfl	1.69	2.32
Belgium	BF	34.60	47.40
Switzerland	SF	1.27	1.74
Austria	Sch	11.80	16.17
Spain	Ptas	95.0	130.12
Portugal	Esc	132.5	182.0
Greece	Dra	153.4	210.7
Ireland	IR£	0.51	0.771
	\$	1	1.37

Source: Barclays Bank (Q4 1990)

B**European Inflation Rates**

Exhibit D-3 shows the average five-year inflation assumptions for each reported country and the changes from those used in reports produced in the previous year. All INPUT forecasts include the effects of inflation as well as natural market growth rates. For consistency, the same inflation rates are used throughout all the different market sector research and analysis during a calendar year, unless specified otherwise.

EXHIBIT D-3

Inflation Assumptions 1991 and 1992

Country	Assumption 1991-1996	Assumption 1992-1997	Change
France	3.0	2.7	-0.3
Germany	2.7	3.9	+1.2
United Kingdom	4.8	3.7	-1.1
Italy	4.4	5.2	+0.8
Sweden	6.3	4.0	-2.3
Denmark	2.7	2.4	-0.3
Norway	4.9	3.4	-1.5
Finland	5.0	1.4	-3.6
Netherlands	2.4	3.3	+0.9
Belgium	3.3	3.2	-0.1
Switzerland	3.3	3.5	+0.2
Austria	2.6	3.2	+0.6
Spain	4.7	5.0	+0.3
Portugal	8.0	12.5	+4.5
Greece	12.0	11.0	-1.0
Ireland	3.0	3.0	0.0
European Average	4.0	4.2	+0.2

Source: OECD Forecasts Q4 1991

Exhibit D-4 shows the inflation assumptions for both the 1990 and 1991 research programmes.

EXHIBIT D-4

Inflation Assumptions 1990 and 1991

Country	Assumption 1990-1995	Assumption 1991-1996	Change
France	4.5	3.0	-1.5
Germany	4	2.7	-1.3
United Kingdom	7	4.8	-2.2
Italy	7	4.4	-2.6
Sweden	7	6.3	-0.7
Denmark	5	2.7	-2.3
Norway	5	4.9	-0.1
Finland	6	5.0	-1.0
Netherlands	3	2.4	-0.6
Belgium	4	3.3	-0.7
Switzerland	5	3.3	-1.7
Austria	4	2.6	-1.4
Spain	6.5	4.7	-1.8
Portugal	-	8.0	N/A
Greece	-	12.0	N/A
Ireland	-	3.0	N/A
European Average	5.5	4.0	-1.5

Source: OECD 1991 Forecast, IMF 1989

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